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Häusermann, Silja ; Kurer, Thomas ; Traber, Denise

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# The Politics of Trade-offs: Studying the Dynamics of Welfare State Reform with Conjoint Experiments

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## Abstract

Welfare state reform in times of austerity is notoriously difficult because most citizens oppose retrenchment of social benefits. Governments thus tend to combine cutbacks with selective benefit expansions, thereby creating trade-offs: in order to secure new advantages, citizens need to accept painful cutbacks. Prior research has been unable to assess the effectiveness of compensating components in restrictive welfare reforms. We provide novel evidence on feasible reform strategies by applying conjoint survey analysis to a highly realistic direct democratic setting of multidimensional welfare state reform. Drawing on an original survey of Swiss citizens' attitudes on an encompassing pension reform, we empirically demonstrate that built-in trade-offs strongly enhance the prospects of restrictive welfare reforms. Our findings indicate that agency matters: governments and policy-makers can and must grant the right compensations to the relevant opposition groups in order to overcome institutional inertia.

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# 1 Introduction

The modern welfare state is one of the major social and political achievements of the 20<sup>th</sup> century post-war era in the developed OECD world. It has supported democratic stability and has allowed shielding most citizens throughout Europe from the main risks of income loss and poverty, such as sickness, old age or unemployment. At the beginning of the 21st century, however, European welfare states have come under heavy political pressure, because demographic and economic structural change call for financial consolidation or even retrenchment of welfare benefits (Pierson, 2001; Huber & Stephens, 2001). At the same time, new social risks and economic grievances have increased social demands towards the welfare state (Pierson, 2001; Bonoli, 2005). Beyond the need for financial stabilization, the sustainability of welfare states also depends on their capacity of adaptation. For these reasons, understanding the reform capacity of welfare states has become a key topic in comparative politics (Esping-Andersen, 1999; Pierson, 2001; Huber & Stephens, 2001; Hacker, 2004; Kuhnle, 2002; Immergut, Anderson & Schulze, 2007; Brooks & Manza, 2008; Palier, 2010; Häusermann, 2010; Rehm, Hacker & Schlesinger, 2012; Hemerijck, 2013; Gingrich, 2014; Huber & Stephens, 2015; Lindvall, 2017). All these studies show that – despite strong functional pressure for welfare reform – the financial consolidation of major welfare programs and their adaptation to new social demands are highly conflictual politically, as institutional feedback processes create endogenous stabilizers for existing welfare state programs (Pierson, 2000).

It is striking that all the institutional stabilization mechanisms of welfare states are based on citizens' preferences and public opinion: reforms are difficult either because citizens protest against cutbacks (in the electoral or non-electoral arena), or because elites fear the repercussions of reforms and use different blame-avoidance strategies (Vis, 2016).<sup>1</sup> Therefore, the key question for welfare state research in the 21<sup>st</sup> century has become under what conditions existing social benefits can be cut back, either to stabilize

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<sup>1</sup>A recent literature (Giger & Nelson, 2011) shows that not all retrenchment is equally unpopular. Where risks are concentrated (e.g. unemployment, see Rehm et al. (2012)), public opinion may support, rather than oppose cost containment. However, public opinion is clearly opposed to cutbacks when it comes to “life-cycle risks” (Jensen, 2012) such as health, old age and education.

existing welfare regimes financially, or to adapt welfare states to new social demands.

The main answer to this question in the welfare state literature is that significant welfare reform is possible when governments manage to diffuse resistance by *compensating* (potential) opponents. A great number of empirical studies have established such political exchange as a key mechanism of current welfare reform politics (Levy, 1999; Bonoli, 2000; Pierson, 2001; Natali & Rhodes, 2004; Häusermann, 2010; Huber & Stephens, 2015; Knotz & Lindvall, 2015; Lindvall, 2017). Their findings imply that unpopular reforms need to be counterbalanced to be viable politically. If a reform contains both contested as well as popular elements, individuals and collective actors are confronted with a trade-off: while they reject the reform based on the cutbacks, they may be interested in the reform being adopted based on the compensating aspects. Eventually, citizens may support the overall package despite their opposition to certain parts of the reform. The aggregate support for the reform will depend on the *relative importance* individuals or social groups attribute to the different elements of the reform. This argument has prominently brought agency back into a literature that had become predominantly focused on mechanisms of institutional path-dependency and stability: if it is true that governments can skillfully “design” reforms in a way that secures sufficient popular support, then the room for politics and choice is re-established.

However, despite the theoretical prominence of the compensation argument, prior research has to date been unable to assess the impact of compensating, expansive reform elements on attitudes towards restrictive welfare reforms, because such reforms are multidimensional. In other words, we do not have empirical knowledge on the effectiveness of different kinds of compensation strategies. Who needs to be compensated and which groups are (most) receptive to compensations? The reason for this lack of research on the micro-foundations of welfare reform is that standard survey data does not provide information on preferences regarding multidimensional policy reforms. As a consequence, all we can do is to infer the effectiveness of compensations *ex post* and indirectly (e.g. via electoral outcomes (Giger & Nelson, 2013)), after unpopular reform elements were implemented. However, this kind of backward induction implies that we can never test

the mechanism of compensation itself, and neither can we empirically identify the relative effectiveness of different compensation strategies.

In this paper, we introduce experimental conjoint survey analysis to study the political dynamics of compensation in welfare reform. Conjoint analysis prompts respondents to choose between different *policy packages*, rather than simply asking about support for different specific measures. The packages contain diverse reform elements, both elements of retrenchment and compensation, and therefore allow us to study the respective contribution of each individual reform element on overall support in the context of multi-dimensional welfare reform.

Our empirical case is the most recent pension reform in Switzerland, a reform process that entails different compensation strategies in the one social policy field – old age pensions – where benefit retrenchment and financial consolidation are the least popular (Jensen, 2012). Switzerland provides an ideal context for studying social policy preferences, because citizens have the possibility to ask for a vote on major welfare reforms in direct democratic referenda. Hence, we are able to study preferences for welfare retrenchment and compensation in a highly realistic setting.

We find that, while pension retrenchment quite dramatically reduces support for a reform, compensation via recalibrating and targeting elements can counterbalance the cost of cutbacks. Generally, retrenching reform packages that include compensation generate higher support than reform proposals including very weak or no compensation. Moreover, with regard to specific social groups, our results show that targeted pension improvements and recalibrating reform elements effectively increase support among low income earners and women, their main beneficiaries. However, the findings also point to a stronger effect of ideology (partisanship) on preferences for specific compensation strategies, compared to socio-economic determinants. Overall, we conclude that compensating elements, especially recalibration, effectively enhance the prospects of restrictive welfare reforms.

Our findings are relevant beyond the Swiss context, because even in countries where reforms are not voted at the polls, governments and political parties are sensitive to pub-

lic opinion, and citizens can protest and even veto unpopular and unbalanced reforms via protest, strikes and other forms of direct contestation. These forms of political participation can be seen as functional equivalents to the Swiss referenda. Moreover, we contend that our findings are not contingent on particularly high levels of information, because we included in our survey only reform issues that were highly politicized and visible in the public debate, and additional tests show that both high- and low-educated respondents answer the conjoint experiment consistently.

## 2 Theory: the politics of trade-offs in welfare state reform

Compensation and political exchange play a key role in today’s welfare reform capacity. This argument is largely uncontested in the welfare state literature (cf. Bonoli & Natali, 2012; Huber & Stephens, 2015; Knotz & Lindvall, 2015; Lindvall, 2017). Of course, there are specific institutional and political circumstances, in which even harsh cutbacks can be imposed by governments<sup>2</sup>, but when it comes to the established central pillars of the welfare state, on which the financial stability of the entire regime ultimately depends – and old age pensions are the prime example of those – such unilateral, uncompensated cutbacks have turned out to be politically unviable (Pierson, 2001; Häusermann, 2010; Vail, 2010; Jensen, 2012). The main reason why uncompensated pension cutbacks are unviable is that existing benefits enjoy very strong support among a broad majority of the citizens, and thus the defenders of existing benefit levels and benefit structures have political visibility and clout, both in the public debates and in organized politics. In a recent study, Busemeyer and Garritzmman (2017) confirm that when confronted with trade-offs between several desirable goals, people were particularly unwilling to accept cutbacks in pension benefits. In other words, compensating the opponents of a reform is crucial for a government that wants to cut back pension benefits.

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<sup>2</sup>E.g. when power is undivided and governments do not fear the electoral backlash (Kitschelt, 2001) or when retrenchment affects a small group who bears concentrated risks (Jensen, 2012) or social groups that are considered “undeserving” (Van Oorschot, 2006)

To motivate the set-up of our argument and analysis, Figure 1 illustrates the widespread unpopularity of pension cutbacks and the opposition among particular groups by showing the share of respondents in our survey who claim that lower benefits are “not acceptable”.<sup>3</sup> The high values across the entire sample and among all groups show how strongly unpopular pension benefit retrenchment is, even among upper income classes and across the political spectrum. However, some groups stand out in their opposition. On the one hand, more vulnerable socio-structural categories – lower-income earners and women<sup>4</sup> – are particularly opposed to lower benefits. On the other hand, party affiliation matters: Voters of the Far Right and the Left are the main opponents to cutbacks. The opposition among left voters is generally a more serious threat to cost-saving reforms because the Far Right in Switzerland promotes lower taxes and market-liberalism (Bornschiefer, 2015) and is therefore very unlikely to challenge pension retrenchment – despite the more skeptical stance of their voters. The Left, in contrast, has a history of challenging any retrenchment in direct democratic referenda.<sup>5</sup>

Figure 1 highlights both the unpopularity of retrenchment and the need for compensation. Existing research has conceptualized and observed different kinds of compensation, which can be grouped into three strategies, based on the specific social and/or political groups that are compensated. First, opponents can be compensated via *targeting*, i.e. retrenchment is combined with benefit expansions for lower-income beneficiaries. The negative effects of cutbacks are thereby mitigated for the most vulnerable, usually through the strengthening of means-tested aspects of the social policy schemes (for examples with regard to pension and labor market reforms in Continental and Southern Europe, see,

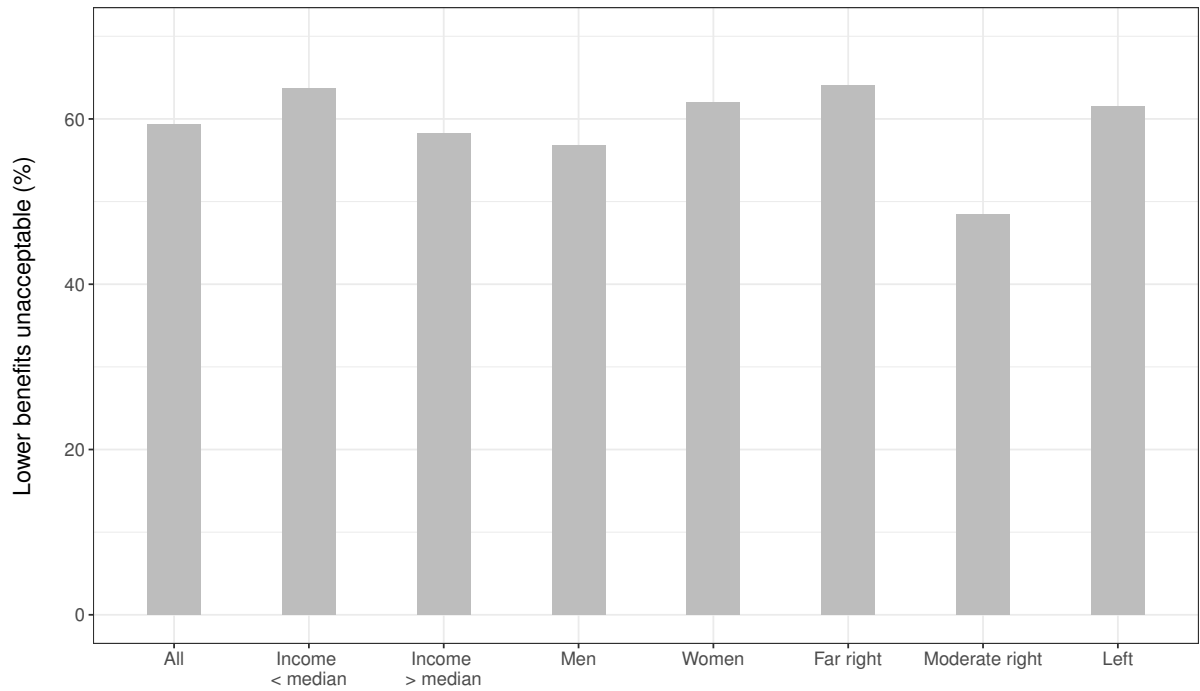
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<sup>3</sup>Respondents were asked how they would prefer to consolidate pension finances: a) by balancing retrenchment and increased revenues, b) primarily through cutbacks, since higher taxes are not acceptable c) primarily through higher revenues, since lower benefits are not acceptable. The graphs show shares of answers to c).

<sup>4</sup>Switzerland has a typical continental (Palier, 2010) pension system based on earnings-related social insurance. This overall architecture benefits to continuous employment biographies and middle/upper income classes, which is why old age poverty risks are significantly higher for lower income classes, as well as women.

<sup>5</sup>Two referenda against pension cutbacks in 2003 and 2010 were launched by the Left and successfully blocked reforms. In the fall of 2017, the radical wing of the Swiss Left also fought against the current reform in the referendum campaign – because it was fiscally saving – thereby joining in an “unholy alliance” with right-wing liberal actors who thought that compensation had gone too far. Together, this alliance against the reform defied the proposal in the referendum with 53 percent of the votes.

Figure 1: Share of respondents agreeing that “lower pensions are not acceptable”



e.g., Rhodes, 2001; Knotz & Lindvall, 2015). Targeting is supposed to foster support for the reform among the direct beneficiaries of targeted expansions (i.e. the lower-income voters), as well as among left-wing voters who are opposed to greater inequality.

The second compensation strategy is *recalibration*. Recalibration links benefit cutbacks to welfare state “updating” (Pierson, 2001), i.e. the adaptation of social policies to changed family patterns and employment biographies. Improving social benefits for part-time workers, de-coupling rights from marriage status or granting social benefits for child care duties are typical examples of recalibrating compensation (for examples in the area of pension policy all across European countries, see, e.g., Bonoli, 2000; Immergut et al., 2007; Häusermann, 2010; Palier, 2010). Recalibration benefits mostly women, as well as more generally people with discontinuous employment biographies. It is supposed to find support among those groups and among advocates of universalistic, gender egalitarian social policies more generally.

Finally, the third strategy of compensation refers to combining benefit cutbacks with *increased revenues* for social security, in order to bolster the financial stability of social



security in the longer run and to share the burden between both sides of expenditures and revenues (for examples of contribution increases as a reform strategy in many countries of Continental Europe, see Palier, 2010). Balancing financial consolidation between taxes and expenditures has been a long-standing claim of the Left in many countries, which is why this compensation strategy should bolster support for the reform particularly among left-wing voters.

In this paper, we test the effect of including such compensations on overall support for a reform package that contains unpopular retrenchment. Before developing more specific expectations, we state a first, general hypothesis (H1) that compensation does increase popular support for welfare reform. More specifically (in terms of an observable implication), we expect to find reform packages, which contain elements that are strongly contested on their own, to nevertheless receive majority support when compensating measures are included.

The more specific question, of course, is *which compensation strategy is effective among which voters?* Given that targeting, recalibration and increasing tax revenues are directed towards lower-income voters, women and left-wing voters respectively, we will study the impact of income, gender and partisanship on reform support. We expect people with lower incomes to be particularly responsive to targeting (H2) and women to be particularly responsive to recalibration (H3). In other words, we expect targeting to contribute to the support for a reform package among lower income people, and we expect recalibration to increase the support for a reform among women. In addition, we expect voters of left parties to be particularly responsive to recalibration, targeting, as well as increased revenues (H4), since all of these compensation strategies address key concerns of left-wing political programs, i.e. the correction of inequalities, societal modernization and equal burden-sharing.

# 3 Case Selection, Experimental Design, Data and Estimation Methods

## 3.1 Pension retrenchment in a direct democratic context

We test the effects of different compensation strategies in the field of pension policy reform in Switzerland. This case provides us with an ideal real-world setting to study welfare reform attitudes.

Pension reform is the prime example of a welfare policy in which reform is constrained by public opinion, because mature pension regimes in the developed OECD countries feature precisely the endogenous institutional feedback effects that account for widespread opposition against retrenchment. Hence, pension policy is most likely the area in which political exchange and compensation are key conditions for reform success (Immergut et al., 2007). Pension policy is also an ideal policy area to compare the various compensation strategies, because old age income protection relies on a range of different distributive principles (Pierson, 2001; Palier, 2010): Basic pension schemes provide opportunities for targeting reforms. Earnings-related occupational pensions generally lead to pension differentials between men and women. Moreover, this gender bias has entailed new social risks for women, which provide a need for recalibration. Finally, most countries finance public pensions through contributions, which implies that governments can indeed re-balance pension finances both via reduced benefits or via increased revenues.

Switzerland provides an ideal empirical setting for studying policy reform attitudes, because it provides survey respondents with a realistic task. Being a semi-direct democracy, major pension reforms in Switzerland are usually subject to a direct democratic referendum.<sup>6</sup> Therefore, most respondents have evaluated policy trade-offs and compensations in the past. Indeed, over the past 25 years, Swiss voters have been called to the polls no less than 7 times to cast a vote on pension reform (Häusermann, 2010). These context conditions improve the external validity of our experimental findings, as

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<sup>6</sup>Referenda on reforms of laws are optional in Switzerland. If opponents of the reform manage to collect 50'000 signatures in 100 days, the reform will be voted on. Despite not being mandatory, major social policy reforms are almost always subject to a referendum.

the survey puts respondents in a real-world situation.

In order to further improve the validity of our findings, we study reform attitudes with regard to an actual policy reform process, rather than asking respondents about abstract or hypothetical preferences, as it is usually done in similar surveys. Measuring preferences without putting them in a relevant, real-life context can create distortion for various framing or confounding effects (Bertrand & Mullainathan, 2001). The most recent Swiss pension reform (“Altersvorsorge 2020”) provides the perfect example of a policy reform aimed primarily at financial consolidation, but supposed to foster popular support by compensation.<sup>7</sup> The government’s explicit aim in this reform was to secure the financial stability of the pension regime at least until 2030. To this effect, the government proposed in 2014 to raise women’s retirement age and to lower general pensions, as well as widows’ pensions. Combined, these two measures would reduce expenditures massively by almost 6 percent (estimated savings by 2030 compared to the current annual expenditure of the system, see Appendix B in the supplementary information). In order to mitigate the effects of such retrenchment and to foster popular support for the reform, the government also proposed several expansive elements to be included in the same reform. Table 1 provides an overview of the most important, visible and politicized reform elements in the government proposal and theorizes them in the terms developed above. It is important to notice, however, that despite the compensating elements, the overall effect of the reform would still remain fiscally saving. Even if the proposed retrenchment was to be compensated most generously, the proposed reform would still curb expenditures by at least 2.5 percent.

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<sup>7</sup>The Swiss pension system provides opportunities for all three strategies of compensation: the first pillar (AHV) provides universal, redistributive basic public pensions. By contrast, the second pillar provides occupational pensions on a strictly actuarial basis (social insurance). Hence, while the first pillar provides ample opportunities for targeting compensations, the Achilles heel of the second pillar typically is a bias against female employment biographies, which brings demand for recalibration on the agenda. Since part of the first pillar is financed via VAT, this provides leeway for increasing revenues.

Table 1: The Swiss pension reform “Altersvorsorge2020”

Reform elements	Content	Goal of the reform elements
<b>Pension cutbacks 2nd pillar</b>	The conversion rate denotes the rate at which the capitalized old age savings in the second pillar are calculated into annual pension benefits. Currently, this rate is at 6.8%. The bill proposes a lowering to 6%.	<b>Retrenchment</b>
<b>Cutbacks in widows' pensions</b>	Switzerland has generous widows' pensions for all married women below the age of 64. The reform proposal suggests that in the future, only widows with dependent children should receive such a pension.	<b>Retrenchment</b>
<b>Increase in age of retirement</b>	Currently, the age of retirement in Switzerland is at 65 for men and 64 for women. The reform proposes to equalize the retirement age for both men and women at 65. Right-wing parties demand a further increase to 67.	<b>Retrenchment</b>
<b>Subsidies for early retirement</b>	Currently, early retirement implies a significantly lower pension level (linear cutbacks proportional to the years of early retirement). The bill proposed to subsidize early retirement for low-income workers only.	<b>Compensation: targeting</b>
<b>Extended eligibility 2nd pillar</b>	The second pillar of occupational pensions in Switzerland insures only incomes above ca. 24'000 CHF/year. This is detrimental to workers who work part-time or combine several part-time contracts. As part-time work is very predominantly female in Switzerland, this issue affects mainly women. The reform bill proposed to lower the access threshold, so that about 150'000 women would be newly insured	<b>Compensation: recalibration</b>
<b>Increased revenues (VAT)</b>	Pensions in Switzerland are financed by about 75% via pay-roll contributions. In addition, the government contributes to financing with revenues from income taxation and from VAT. The government suggests to increase VAT earmarked for the basic pension system.	<b>Compensation: increased revenues</b>

### 3.2 The experimental design

Studying the “politics of trade-offs” requires that we identify the relative importance of different reform elements. When a reform package contains both - elements that a voter rejects and elements that he/she favors - the voter will perform an (implicit) balancing of the relative preference importance, which eventually determines whether he/she supports or rejects the reform package as a whole. Standard surveys do not allow us to measure relative preference importance (for a similar critique, see Busemeyer & Garritzmann, 2017). Generally, support levels are very high for expansive social policies and very low for retrenchment. However, from this information, we cannot evaluate public opinion on actual welfare state reforms, since these reforms are usually multidimensional. In addition, standard survey questions (even if they ask about priorities) artificially sep-

arate attitudes on individual elements of policy change. However, in actual preferences over reforms, these elements are linked, and a voter may evaluate a measure differently depending on the other elements of the reform, for instance if a voter values the coherence of a reform package. Therefore, a standard random utility model that infers overall utility from several, separately measured components is unable to estimate overall utility correctly (Horiuchi, Smith & Yamamoto, 2015).

We use conjoint survey analysis as a more appropriate tool to analyze current welfare politics, because it precisely prompts respondents to choose between different policy packages. It is therefore perfectly suited to examine individual preferences in the context of multidimensional reforms. Moreover, the conjoint design has been shown to approximate real-world decisions more closely than vignette designs (Hainmueller, Hangartner & Yamamoto, 2015). Conjoint designs have a long history in psychology, marketing and sociology (Green, Krieger & Wind, 2001; Wallander, 2009) but they have only recently started to spread in political science, with a few pioneering studies showing the substantial value for political science research questions (Bechtel, Hainmueller & Margalit, 2014; Hainmueller & Hopkins, 2014; Bechtel, Genovese & Scheve, 2016; Gallego & Marx, 2016; Ballard-Rosa, Martin & Scheve, 2017) and providing methodological support for applications in political science (Hainmueller, Hopkins & Yamamoto, 2014; Hainmueller et al., 2015).

We designed and implemented our experiment as follows: First, we specified the core elements of the reform package (attributes) and different values of each reform element (levels). Second, reform packages were generated randomly. They contained the whole set of attributes (in random order), and a random composition of levels. Finally, survey respondents were presented with two hypothetical reform packages to compare and evaluate. More specifically, they were asked to indicate a) which of the two reform packages they prefer (the “choice” variable), and b) how likely they would be to support each of the two reform packages individually in a popular referendum (the “ranking variable”, similar to Bechtel et al., 2014). Through randomization and a high number of such pairwise comparisons, this empirical strategy allows us to identify – and quantify – the causal

effect individual reform elements have on the support for the entire reform, compared to a reform that contains the baseline category of a particular attribute.

The definition of attributes and levels is, obviously, key for both internal and external validity of the experiment. In our case, we identified 6 key elements of the ongoing reform and we defined 3 values for each element, according to the same principle: status quo, government proposal, claims to go beyond the government proposal. Table 5 shows the design. It was important for us to include only levels that are realistic and that were actually debated in the public debate, which is why for recalibration, we defined only two values.<sup>8</sup>

Each respondent compared 5 pairs of hypothetical reform packages<sup>9</sup> and had to make a decision between the two of them (forced choice) before being able to continue the survey. All respondents were also forced to indicate their level of support for each reform package in a referendum (see supplementary information (Appendix A) for a screenshot of the experimental design). Our design results in more than 18'000 (1873 respondents x 5 comparison a 2 reform packages) ratings on randomly generated reform packages.

Given the complexity of the task, two concerns regarding internal and external validity need to be addressed: the specificity of the attributes/levels, and respondent fatigue. Regarding the specificity of the levels, one may first ask if the reform elements we include are so specific that they limit the external validity of the findings, because it would be unrealistic to assume that citizens would know about specific reform elements in other countries. We suggest that our findings *do* travel beyond the context of Switzerland, because public opinion on and public contestation of welfare reforms is *always* specific and focused on particular measures (think e.g. of Articolo 18 in Italien labor law or the “CDD” – fixed-term contracts – in France, two highly specific elements that became

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<sup>8</sup>In our experiment combinations of levels are possible. The design could exclude certain combinations that are impossible or unlikely (at the cost of the benefits of randomization); we did not exclude any combinations, however, because all packages are politically possible. The only restriction we imposed prevented the display of two exactly identical packages.

<sup>9</sup>To prepare respondents for their task, the survey questionnaire started with multiple screens that explained the overall structure of the pension system, the context of the reform, as well as the meaning of the reform attributes. Respondents could also ask for more information on the different reform elements later while comparing the hypothetical packages, by clicking on info buttons.

Table 2: Reform elements that are being discussed (attributes and values)

Reform elements (Attributes)	Values		Goal of the reform elements
<b>Pension cutbacks 2nd pillar</b>	1: status quo 2: government proposal 3: beyond gvt	No cuts (6.8% conversion rate) Cutbacks. Balance the lowering of pension levels by having people contribute more. Cutbacks. No balancing.	<b>Retrenchment</b>
<b>Cutbacks in widows' pensions</b>	1: status quo 2: government proposal 3: beyond gvt	All widows below 64 are eligible for benefits Only widows with children <16 years should be eligible Stepwise abolishment of widows' pensions	<b>Retrenchment</b>
<b>Increase in age of retirement</b>	1: status quo 2: government proposal 3: beyond gvt	64 for women, 65 for men Increase for women by 1 year: 65 for both Stepwise increase for both men & women to 67	<b>Retrenchment</b>
<b>Subsidies for early retirement</b>	1: status quo 2: government proposal 3: beyond gvt	Early retirement allowed, but with linear cutback in the benefit level Early retirement subsidized for lower-income earners Early retirement subsidized for all	<b>Compensation: targeting</b>
<b>Extended elibility 2nd pillar</b>	1: status quo 2: government proposal	No change. Only people earning >24'000 CHF/year are eligible Extend access for people with lower incomes and part-time workers	<b>Compensation: recalibration</b>
<b>Increased revenues (VAT)</b>	1: status quo 2: government proposal 3: beyond gvt	No increase in VAT Increase of VAT by max. 1.5 percentage points Increase of VAT by max. 3 percentage points	<b>Compensation: increased revenues</b>

decisive elements of political contestation). Beyond this general observation, we have worked to ensure that we included only those reform elements in the conjoint survey that were actually politicized and visible: we defined attributes and levels based both on the government report accompanying the reform proposal, as well as on the basis of empirical analyses of the key elements in previous pension reforms and pension votes; we then discussed our design with public servants of the Federal Office of Social Insurances, i.e. the competent administrative office; furthermore, we implemented both a qualitative pre-test, observing respondents via camera while they filled in the questionnaire (the respondents were asked to articulate their thought-process while responding), as well as a pre-test with 150 students; finally, we verified that all attributes/levels included – even the more technical ones – were discussed prominently in the media, based on data from the FOEG media observatory.<sup>10</sup> Based on this procedure, we feel confident that despite the task being specific, it adequately reflected opinion formation on this reform in the public.

The second concern regarding the complexity of the attributes/levels is whether only highly sophisticated voters/respondents would understand the reform proposals and be able to interpret them as retrenchment/compensation, or whether less sophisticated voters would answer randomly or react to obfuscation rather than to compensation. This is a concern that we have addressed mainly empirically, by cross-validating our conjoint findings with more simple direct questions; by controlling for education and empirically comparing the consistency in the answers of high- and low-education respondents; and by comparing the coefficient sizes of more technical and more straightforward elements (in order to test for obfuscation). The findings of these robustness tests (Appendix F) confirm that the levels were understood and the survey task was understood consistently. We discuss the findings of the robustness test in more detail in section 5.

Regarding respondent fatigue after the first tasks, we contain this risk in three ways: we performed extensive quantitative (with students), as well as qualitative (with respondents) pre-tests, observing respondents via camera while they filled in the questionnaire

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<sup>10</sup>FOEG - Forschungsinstitut Öffentlichkeit und Gesellschaft, University of Zurich.



(the respondents were asked to articulate their thought-process while responding). This pre-test helped us design instructions that are most helpfully throughout the five paired comparisons. Second, we measured time stamps throughout the survey, in order to detect and exclude respondents who click too quickly through the comparisons (this affected less than 3% of the respondents). Finally, we estimated all results based on the first two (out of five) conjoint comparisons only, assuming that people’s concentration was strongest in the beginning of the task. The findings are entirely robust (see Appendix C).

### 3.3 Data and estimation strategy

The survey was conducted in both the French and the German speaking parts of Switzerland among an original, representative sample of Swiss citizens between March and June 2015 (after a pre-test in February), implemented by the survey company “gfs.bern”. It contains 1’873 fully completed interviews. Random sampling was done on the basis of the national telephone register, which indicates the first phone number an individual registered (mobile or landline number). Respondents were recruited via CATI interview, in which they indicated their e-mail address. They then received within 24h an e-mail with their access code to the online survey. Respondents were – if needed – reminded three times (via e-mail after 2 and after 3 weeks, and via telephone after 4 weeks). Our sampling strategy was based on quota for the region, age and gender, drawn from the national census. We chose to oversample respondents over 65, because this age group usually has lower participation rates in online surveys. Table 3 shows sampling and response rates by region, age and sex. Our overall response rate was 63%, it was highest among elderly men and lowest among young men and in the French speaking part of Switzerland.

In the analyses, we account for remaining bias from survey response using weights created by iterative post-stratification. The weights adjust for region, age and gender (based on known population margins) and party preference (based on the national election results). Following the empirical strategy of Hainmuller et al. (2014), we estimate the average marginal component effect (AMCE), i.e. the marginal effect of a specific level over

Table 3: Response rates by language region, age, and sex

Region	Recruited			Login		Completed		
German	2307			1720		1570 (68%)		
French	637			340		303 (45%)		
Total	2980			2060		1873 (63%)		

Age	Recruited			Login			Completed		
	m	f	all	m	f	all	m	f	all
<40	390	379	769	168	247	415	157 (43%)	209 (55.1%)	366
40-64	572	611	1183	423	447	870	392 (68.5%)	399 (65.3%)	791
>65	462	566	1028	361	414	775	341 (73.8%)	375 (66.3%)	716
Total	1424	1556	2980	952	1108	2060	890 (63.5%)	983 (63.2%)	1873

the joint distribution of all other levels. Because each attribute and level was randomly assigned (i.e. we choose a randomized design over a quota design), we can estimate the AMCEs using a simple linear regression of the following form, where every respondent (indexed as  $i$ ) is presented with  $K$  conjoint comparisons ( $k$ ) and in each comparison chooses one of  $J$  alternatives ( $j$ ):

$$\begin{aligned} \text{chosen}_{ijk} = & \theta_0 + \theta_1[\text{cutbacks}_{ijk} = \text{statusquo}] + \theta_2[\text{widowspension}_{ijk} = \text{retrench}] \\ & + \theta_3[\text{retirementage}_{ijk} = 65/65] + \dots + \epsilon_{ijk}, \end{aligned}$$

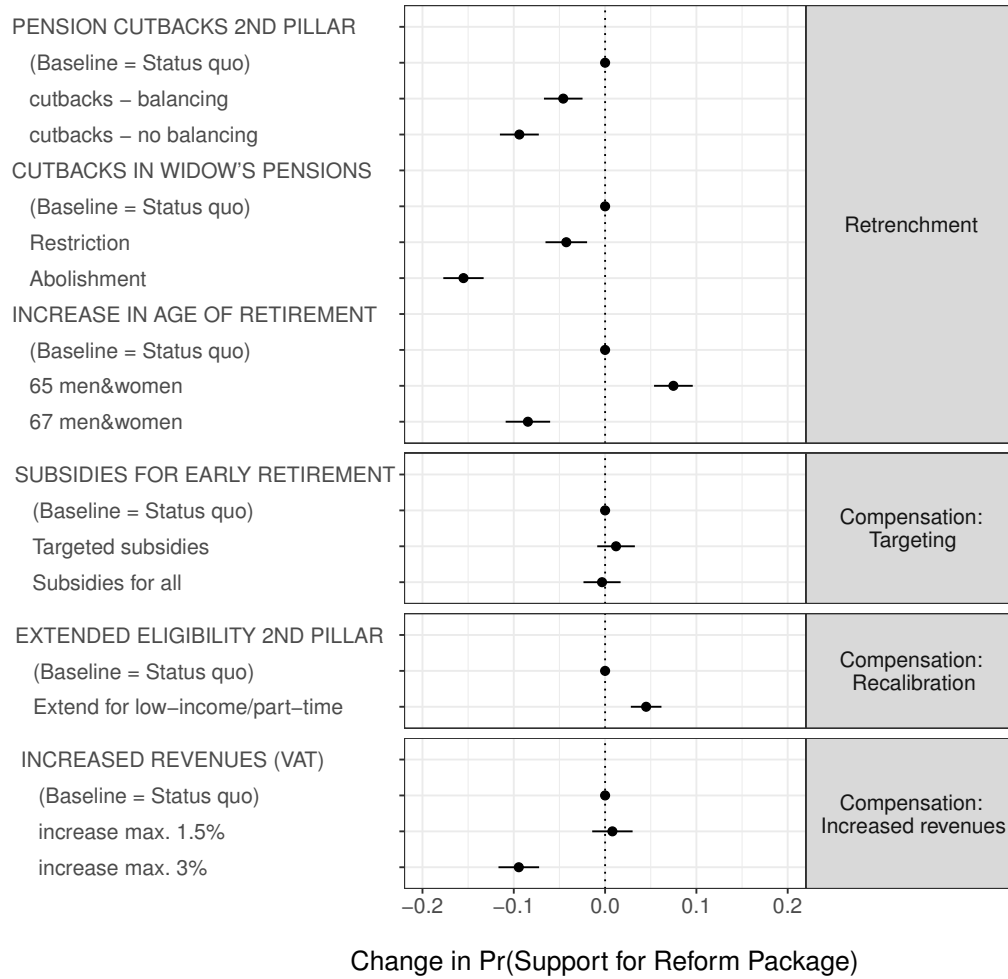
where  $\text{chosen}_{ijk}$  is coded as 1 if that hypothetical reform package was chosen and 0 otherwise, and  $[\text{cutbacks}_{ijk} = \text{status quo}]$ ,  $[\text{widowspension}_{ijk} = \text{retrench}]$ , etc. are dummy variables coded as 1 if that value applies to the reform package and 0 otherwise.  $\hat{\theta}$  for e.g. retirement age = 65/65 then is the average difference in the probability of a package being chosen if it raises women's retirement age by one year as compared to the status quo, with the average being computed over all other possible combinations of levels. The analysis of the conjoint data was done with the `cjoint` package in the R language (Hainmueller et al., 2014), clustered standard errors account for multiple pairwise ratings of reform packages by each respondent.

## 4 Findings: Effects of Retrenchment and Compensation on Support

Our first hypothesis states that compensation is effective in counter-balancing opposition against retrenchment. To gauge this effect empirically, Figure 2 presents the findings of the conjoint analysis for the full sample of respondents. Figure 2 first lists the three retrenchment elements of the reform package: cutback in benefits levels of 2<sup>nd</sup> pillar pensions, cutbacks in widows' pensions and a higher retirement age, followed by the different compensating elements. The coefficients indicate for each attribute value the average change in the probability of supporting a reform package if the package includes the respective value instead of the baseline value (status quo). Negative coefficients indicate that a specific attribute value would reduce overall support.

As expected, we see that pension retrenchment (pension cutbacks, lower widows' pensions and a general increase in the age of retirement) clearly, significantly and sometimes massively reduce support for the reform. Raising women's retirement age from 64 to 65, by contrast, increases support for the overall reform. It seems that most voters do not perceive this change as retrenchment, but rather as a measure of updating/gender equalization. Hence, a first finding confirms that – even when presented in a reform package – retrenchment elements considerably lower the chances of the reform. Can expansive elements compensate for this loss of support? When we compare the average effects of different compensation strategies, we see that their effects differ strongly: Subsidies for the lower-income earners in favor of their possibility to retire early are a form of targeting compensation. In our sample, however, they do not increase the support for the entire reform significantly. Even though the coefficient is slightly positive, this reform element is not salient enough in the entire sample of respondents to reach significance. The same holds for the compensation via increased revenues from VAT (1.5%); a more massive tax increase (3%) even reduces the chances of the reform package clearly. The compensation strategy that significantly increases support for the entire package in the full sample of

Figure 2: Effects of reform elements on support for the pension reform package



Note: Estimates shown are changes in probability of supporting a pension reform that includes the specific attribute value, compared to a reform that includes the status quo. Bars represent 95% confidence intervals.

respondents is recalibration: extending eligibility to second pillar pensions for low income earners and part-time workers (mostly women) increases the probability of a reform being accepted by almost 5 percentage points. In other words, this compensation is able to counterbalance the cost of cutbacks, e.g. the lowering of 2<sup>nd</sup> pillar pensions.<sup>11</sup>

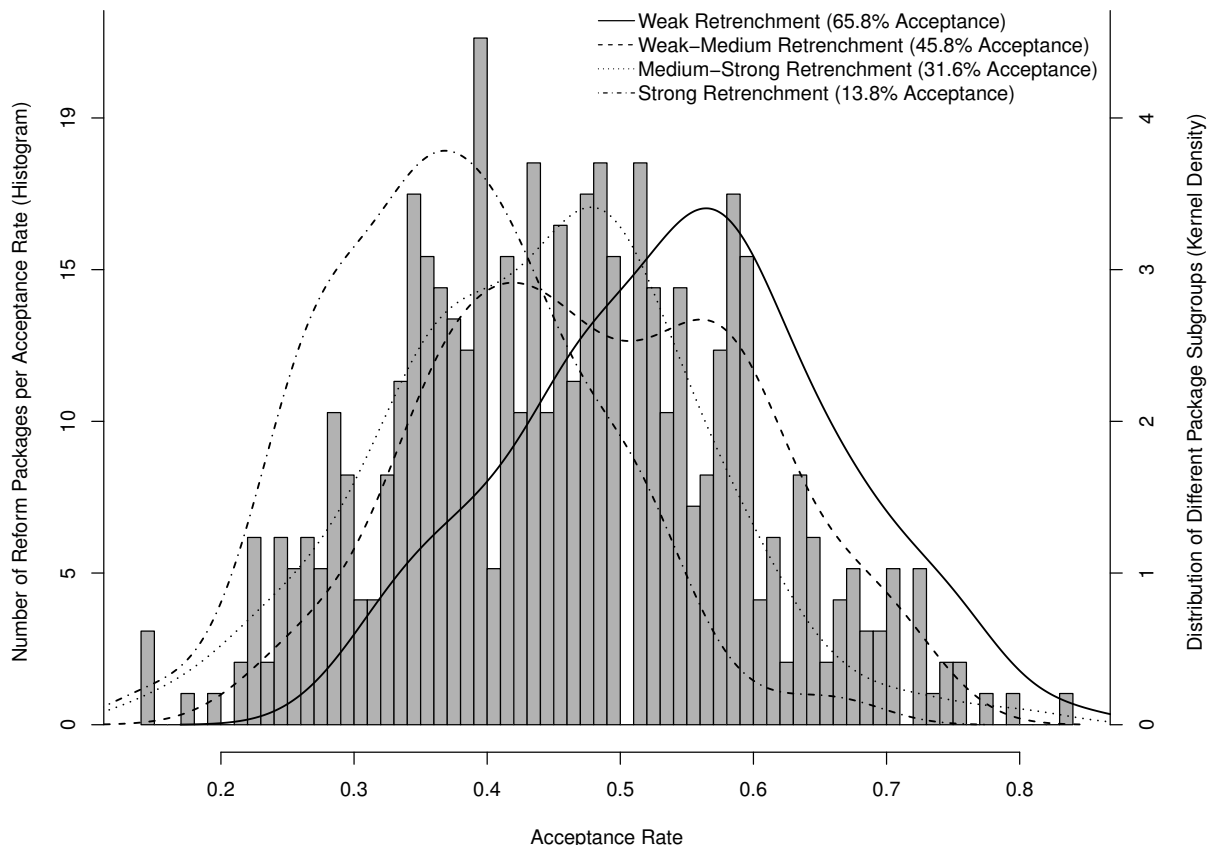
Alternatively, we can look at the effectiveness of compensation from a different perspective. Due to randomization of the attributes, our design involves both reform packages that include only little retrenchment and some very painful packages that consist

<sup>11</sup>One may argue that the idea of compensation pre-supposes that expansive elements are presented in combination with retrenchment. Since all level combinations are possible, we also have packages that are purely expansive in our sample. To test for robustness, we calculated the findings based on a sub-sample of hypothetical packages that includes only those reforms that contain any kind of retrenchment. The findings are robust (see Appendix C).

entirely of cutbacks. The underlying assumption of our design is that the overall support for a reform package decreases the more retrenching elements it includes. Put differently, as retrenchment implies lower expenditures, we would expect the popularity of a reform package to be negatively related to the savings potential of a reform. The real-world setting of our design allows to test the validity of this assumption. We computed the aggregate cost implications of all 486 hypothetical reform packages on the basis of the budgetary implications of the reform elements included (see Appendix B). Cost implications range from the most restrictive packages (only retrenchment, no compensation) which would lead to a 10.6% expenditure reduction (9.8 bn/year) to the most expansive ones (no cutbacks, only compensations) which would expand expenditures by 0.8% per year (0.8bn/year). On the basis of the ranking variable (“how likely would you support this package in a referendum?”), the histogram in Figure 3 presents the distribution of acceptance rates (dichotomized ranking variable) for each of the 486 packages. As expected, the acceptance rate strongly varies, with some unpopular combinations of reform elements only supported by 20% of respondents or less and some packages being supported by a overwhelming majority. The four foregrounded distributions (kernel densities) take stock of the available information on the savings potential of each reform element and demonstrate that more restrictive packages receive less popular support. To generate these distributions, we ranked the reform packages according to their saving potential (i.e. the severity of retrenchment) and split them into quartiles. The message is clear: the more retrenchment a package involves, the lower the share of respondents supporting it. However, an observable implication of our hypothesis 1 is that we should also find retrenching reform packages — i.e. packages that imply a substantial decrease of government expenditures — which would receive a majority of votes *despite* the included cutbacks. This is indeed the case: Even among the second and third quartile (retrenching pension expenditures by 2.3 to 6.3% annually), we find that a substantial share of these reforms receive acceptance rates above 0.5, that is, would enjoy popular support of at least 50%. Reform packages that include very weak or no compensation (the fourth quartile), however, hardly ever gather majority support and thus would not

stand a chance in a popular referendum.

Figure 3: Support for reform packages depending on cost implications



Note: X axis: share of positive responses to the question: “If you had to vote on package X in a popular referendum, would you support the reform or reject it?” Left Y axis denotes the bars, right Y axis the lines. Lines: all hypothetical reform package combinations (total of 486) have been divided into quartiles, depending on their impact on the reduction of expenditures (retrenchment). The cutoff-points of the four quartiles are expenditure cuts of 5.79 bn/year, 4.18 bn/year and 2.07 bn/year. Cost implications are based on the official estimates as reported in Appendix B.

## 4.1 Interactions with respondent characteristics

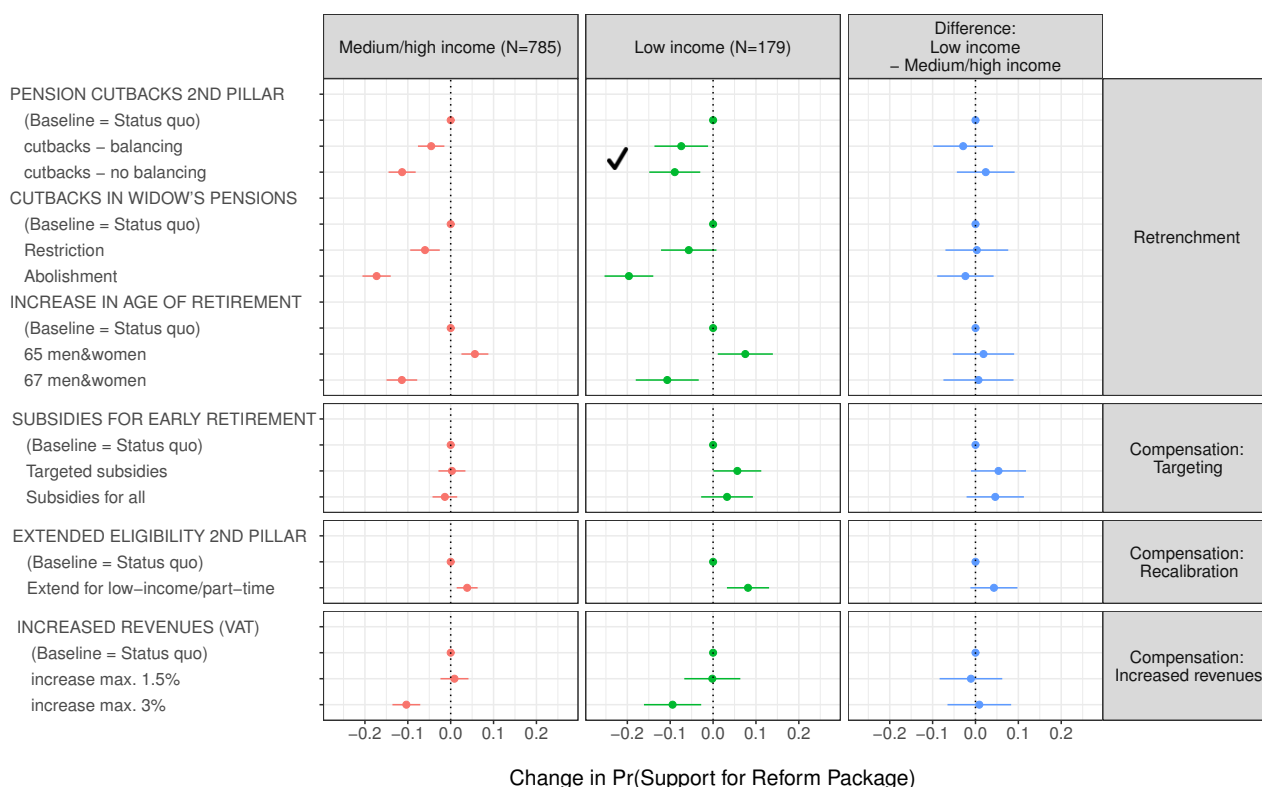
Hypothesis 2 suggests that lower-income people should respond particularly strongly to compensations that *target* their specific pension rights. Subsidies for early retirement are such a compensation, but also the extension of the eligibility to second pillar pensions has some (limited) traction for lower-income earners? pensions. Accordingly, Figure 4 shows the conjoint findings for individuals living in lower-income households<sup>12</sup> compared

<sup>12</sup>We define lower-income individuals as those living in households with a combined income of below 6000 CHF/month. This corresponds to the median individual income in Switzerland and represents 1.5 times the threshold the government defined for individuals to be eligible for subsidies for early retirement. Pensioners are excluded, as their pensions would not be affected by the compensations.

to higher income classes.

We find that among lower income earners, targeted subsidies indeed increase support for the reform by 5.7 percentage points, while the middle- and higher income earners are basically indifferent towards these reform elements. However, even though the effect is significant among the lower-income earners, the difference between the income groups is not (see right panel of Figure 4; Appendix D provides the full list of coefficients).

Figure 4: By income: effects of reform elements on support for the pension reform package

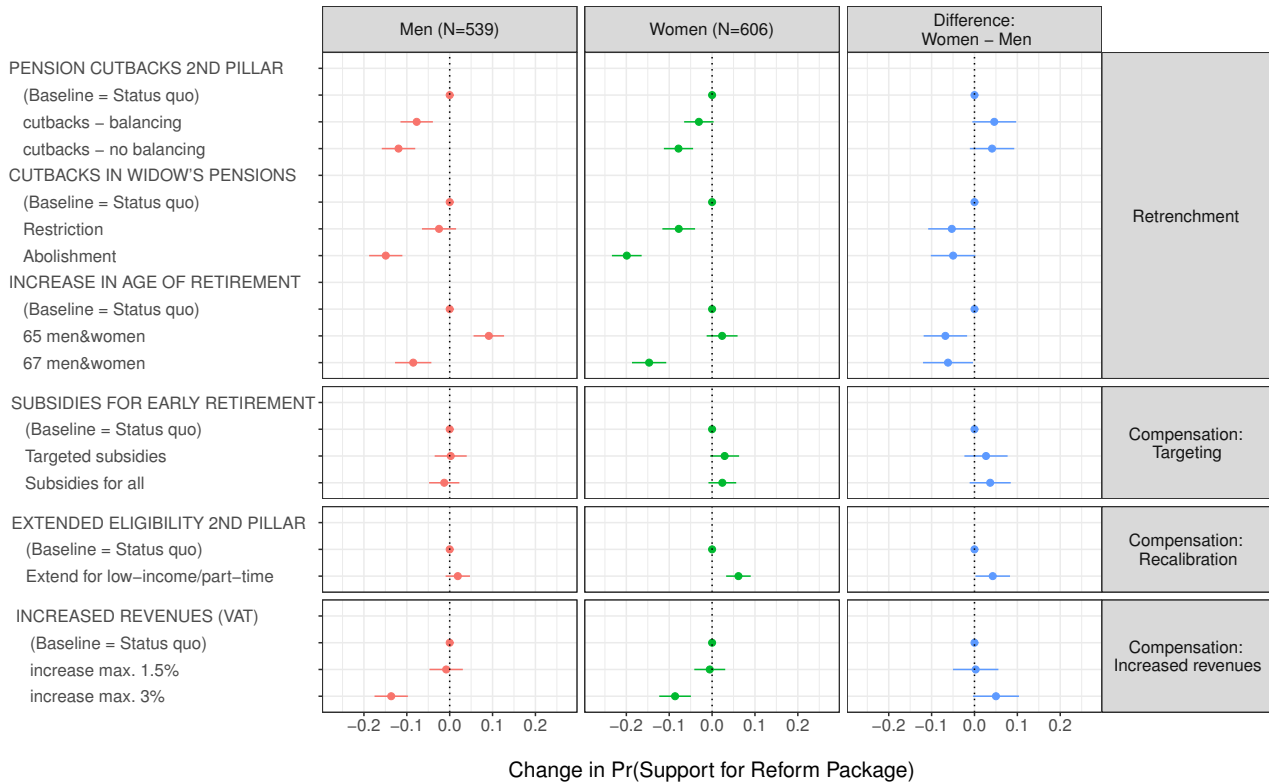


Note: Estimates shown are changes in probability of supporting a pension reform that includes the specific attribute value, compared to a reform that includes the status quo. Bars represent 95% confidence intervals.

*Recalibration* more strongly increases support for the reform packages among lower-income earners than it does among the higher income groups. Again, the difference between the two subgroups is not significant. Hence, income as such does not seem to be a very strong predictor of the specific relative importance different compensations have for different groups. Attitudes among lower-income earners are not sufficiently distinct from those of higher income groups to make such a claim.<sup>13</sup>

<sup>13</sup>Nevertheless, of course, compensations do work among this group: 27.5% of reform packages that

Figure 5: By gender: effects of reform elements on support for the pension reform package



Note: Estimates shown are changes in probability of supporting a pension reform that includes the specific attribute value, compared to a reform that includes the status quo. Bars represent 95% confidence intervals.

Differences are stronger when we compare active men and women (pensioners are excluded here since the cutbacks would not affect them) based on their relative material interests in the compensations offered. We suggested that if material interests drive the effectiveness of compensations, women should be more responsive to recalibration than men, as the extension of eligibility to second pillar occupational pensions affects mostly women. About 85% of employed women in Switzerland work only part-time. Extending access to the second pillar as proposed by the government would have newly granted occupational pension rights to more than 150'000 women. Indeed, recalibration (extending eligibility for 2nd pillar pensions) increases support for the reform significantly by 6.1 percentage points among women, while the effect is small and not significant for men (Figure 5). Unlike the difference between income groups, the difference between men and

include pension cutbacks in the 2nd pillar still receive majority support among lower-income individuals who explicitly reject such cutbacks if they include recalibration measures. However, this pattern is not distinctive enough to support income as a determinant of compensation effectiveness.



women with regard to recalibration is significant (see Appendix D in the supplementary information). Overall, it appears that compensating women is particularly important for the success of reform, since some of the gender-specific, restrictive elements of the reform (lowering widows' pensions, increase women's retirement age by 1 year) generate stronger resistance against the entire package among women than among men: regarding the government proposal (see Table 1), men oppose only pension cutbacks, which would affect them directly, while they are supportive of increasing women's retirement age and they are indifferent with regard to restricting widows' pensions. Hence, it seems that among men, such a reform overall should generally have a better chance of being supported than among women (in line with Figure 1). Indeed, the government seemed aware that women's votes would have to be won in this process, as it explicitly argued that since several of the cutbacks bear more heavily on women than on men, women's overall pension rights should be particularly improved in the second pillar.<sup>14</sup> According to our results, this strategy is indeed effective: overall, among those women who reject pension cutbacks explicitly, 25.5% of the reform packages that contain precisely such cutbacks would nevertheless receive majority support.

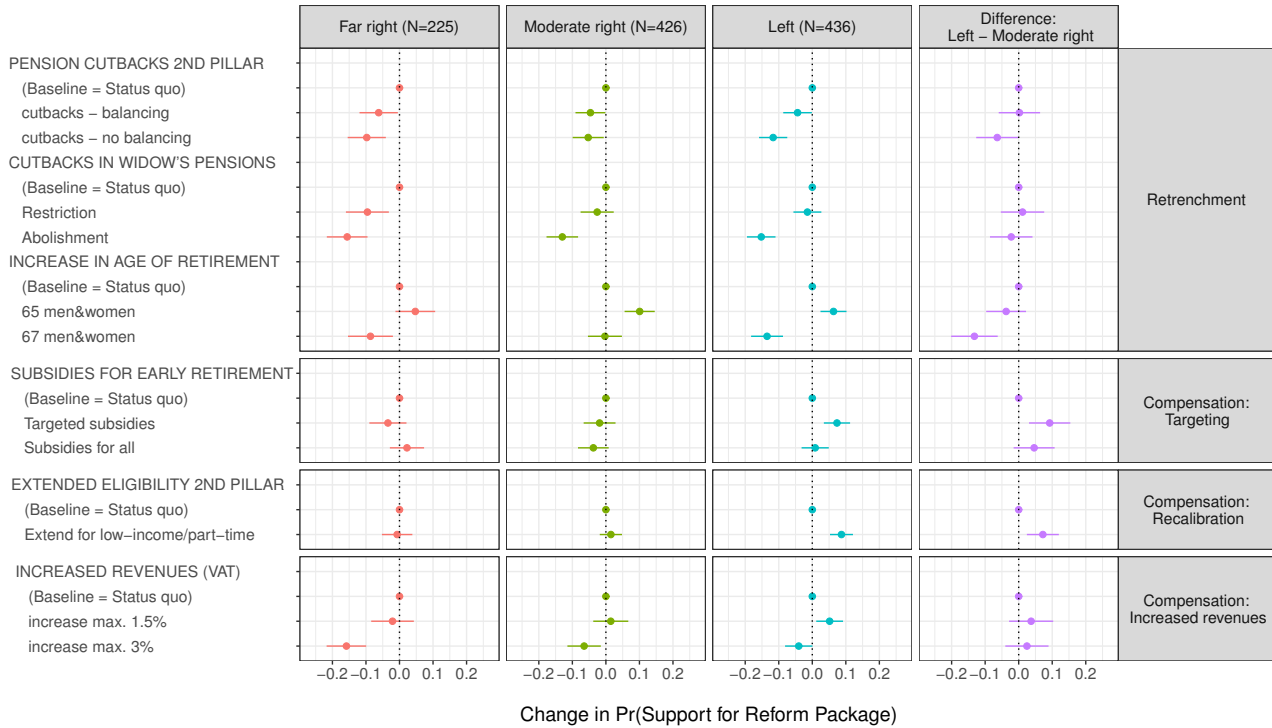
Finally, we test partisanship as a determinant of the effectiveness of different compensation strategies. Figure 1 showed that left-wing voters in Switzerland are strongly opposed to retrenching pensions. Also, in all past referenda, it was the Social Democrats and/or trade unions that launched the referenda against reforms and that led the campaigns (that were eventually won with the votes of far more citizens than the left-wing voters only, of course). Hence, for a government seeking to strengthen support for a reform, it seems particularly important to foster support among the Left.

We suggested that retrenchment should reduce support more strongly among left-wing voters than among center-right voters; in addition, H4 posits that recalibration, targeting and increased revenue should increase support for the reform among left voters more strongly than among voters of the center-right or the far-right, because they address long-standing claims that the left has raised regarding the expansion of old age income

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<sup>14</sup>Faktenblatt: Altersvorsorge 2020. Was die Reform für die Frauen bedeutet. Bundesamt für Sozialversicherungen (BVS), Bern. <https://tinyurl.com/altersvorsorge2020-female>

Figure 6: By party affiliation: effects of reform elements on support for the pension reform



Note: Estimates shown are changes in probability of supporting a pension reform that includes the specific attribute value, compared to a reform that includes the status quo. Bars represent 95% confidence intervals.

security.

Figure 6 compares attitudes of left-wing voters (Green party and Social Democrats) to those among voters of the moderate right (Christian Democrats and Liberals) and voters of the far right (Swiss People's Party). In the right-hand panel, we show whether left-wing voters differ significantly from moderate right voters, because these are the parties that are the main opponents in this policy field (among the Far right, the party elite supports retrenchment, but their voters do not, which is why the SVP tends to avoid the spotlight in the reform process). First, we find that pension retrenchment reduces the overall support for the reform among all voters (except for the equalization of the retirement age for men and women). However, left-wing voters are indeed more skeptical of the more drastic retrenchment measures discussed (the difference among left-wing voters and the moderate right is significant regarding unbalanced benefit cuts and an increase in the retirement age to 67).

In terms of compensation, we see exactly the pattern we would expect: targeted subsidies for the early retirement of low-wage earners (targeting), better occupational pensions for women (recalibration), as well as moderately increased revenues via VAT significantly and strongly increase the support for the entire reform package among left-wing voters (by 5-9 percentage points), whereas they do not among the voters of the (both far and moderate) right. Left-wing voters clearly respond more positively to compensations via targeting and recalibration than right-wing voters. Hence, compensations make retrenchment acceptable among left-wing voters: 30.2% of all reform packages that include pension cutbacks still receive majority support among those left voters who explicitly rejected precisely this measure in our survey (in a direct question about these cutbacks).

In terms of a comparative assessment of the effectiveness of different compensation strategies, Table 4 provides the average marginal component effects of the different compensating elements for the various sub-groups we have focused on. The coefficients in the cells are simply the coefficients shown in the above figures (95% confidence interval below.) When asking which compensation strategy works among which groups, two findings are particularly noteworthy: first, recalibration is most effective in generating support for the overall reform package among all subgroups. In other words: it is the most important compensating factor. Second, partisanship is a more forceful predictor of the effectiveness of compensations than socio-economic conditions, as all three compensation strategies have most traction among left-wing voters.

## 5 Robustness checks

Conjoint surveys are generally cognitively demanding for respondents, as they are asked to evaluate several elements in combination and – what is even more – to compare one combination of elements to another combination. Hence, there are several concerns regarding the validity and robustness of our findings that we want to address directly: in terms of internal validity, one may ask whether conjoint evaluations are answered randomly when respondents become tired of the complex task. In addition, the specific

Table 4: Effects of different compensation strategies on reform support among sub-groups of respondents

	<b>Targeting</b> (subsidize early retirement for lower-income earners)	<b>Recalibration</b> (extend access to second pillar pensions for women)	<b>Increased revenues</b> (Increase VAT by 1.5pp)
<b>Full sample</b>	0.012 [0.033 -0.009]	0.045 [0.062 0.028]	0.008 [0.030 -0.014]
<b>Lower income respondents</b>	0.057 [0.112 0.001]	0.081 [0.131 0.032]	-0.002 [0.064 -0.067]
<b>Women</b>	0.029 [0.063 -0.005]	0.061 [0.090 0.033]	-0.005 [0.031 -0.042]
<b>Left voters</b>	0.074 [0.113 0.035]	0.087 [0.121 0.053]	0.052 [0.092 0.012]

formulation of reform options (i.e. values) may affect how respondents understand and evaluate the packages. On top of this, problems of sampling and survey design (we used a CATI recruitment of respondents) may affect the internal validity of the findings. When it comes to concerns about external validity, the choice and specification of the reform elements (attributes) can be questioned. Since we have one particular instance of a targeting or recalibrating reform element, can we conclude on the effectiveness of recalibration overall, or only on this specific kind of recalibration? Furthermore, we fielded the survey at a specific point in time regarding the public debate on the ongoing reform in the media. The relative importance respondents attribute to the different reform elements may therefore be situational and reflect a snapshot of the mediatized debate. Finally, one may wonder if the findings only hold for highly sophisticated, highly informed citizens (which is a concern to both internal and external validity).

We address these legitimate concerns via a series of robustness checks. First, we address concerns about the effect of respondent fatigue by estimating the key findings on the basis of the first two conjoint comparisons only. The findings are entirely consistent (see Appendix C in the supplementary information), indicating that those respondents who engaged with the task kept their attention for all five conjoint pairs. This positive finding is also confirmed by an evaluation of time stamps (the time respondents spend on each pairwise comparison) and of dropouts during the conjoint task. Both evaluations show that respondents engage in all 5 comparisons seriously and that once they decide

to engage with the task they follow it through. Only 5.4 percent of the respondents drop out by the start of the conjoint-task (which is the first task in the overall survey).

Second, we repeated a very similar, but not identical survey on the same pension reform with a new sample about one year after the first fieldwork was completed. This second survey differs in the following respects: A) sampling strategy: while for the first survey, we recruited respondents based on the register of Swiss landline phone numbers via CATI, we sampled for the second survey based on the official statistical register of the Swiss population and invitation via letter. B) We changed one of the six attributes of the survey, since in the parliamentary debates, the targeting element of the first government proposal (subsidize early retirement) was changed to an alternative targeting element (increase basic pensions by a certain amount per month). This allowed us to test the robustness of the component effect depending on the particular kind of targeting compensation. C) We slightly adapted the formulation of the levels (specific reform elements) to reflect the evolving policy proposal. This adaptation allows us to check the robustness of the findings to slight changes in the formulation of levels. And D) the second survey being fielded more than one year after the first one, the context in terms of public debate on the reform had changed. While in 2015, the reform was not in parliament yet (hence the public debate in the media had only started), it was more heavily discussed in the media in mid-2016 (i.e. at the time of the second survey), as the process was then in the middle of parliamentary debates. Hence, we can see if our findings are robust to changes in the public opinion context.

Appendix E provides information about and the findings of this second survey. The overall picture is very clear: the findings are robust to the changes in sampling, survey design and context. Comparing the findings of the two surveys, we see an almost identical pattern: retrenchment of 2<sup>nd</sup> pillar pensions is highly unpopular, especially if it is not balanced with higher contribution payments. Also, a general increase in the age of retirement and restrictions of widows' pensions negatively affect support for the overall package. The finding on recalibrating reform elements is also robust: extending eligibility to low-income and part-time workers significantly increases the popular support for the

reform (while part-time only does so, but not significantly). We also confirm that women and left-wing voters support recalibration more strongly than men and right-wing voters. Finally, as in the first survey, increasing revenues through VAT increases support only among left-wing voters. These findings are robust to slightly different formulations of the levels.

The only difference we find concerns targeting compensation. While targeting compensation (subsidize early retirement for lower-income earners) increased support for the reform in 2015 (first wave) only among left-wing voters, but not among any other group, the targeting compensation included in the 2016 is more effective (and much more generous). In 2016, the upper chamber in Parliament proposed to increase basic pension levels by a fixed amount per month for all recipients. Despite being a universalistic measure, this change would benefit lower-income earners most (which is why we still qualify it as targeting), since the basic pensions are highly redistributive. This compensation measure increases support significantly in the overall sample, among left-wing voters, women and lower income-earners. These findings suggests that targeting may not be overall a less effective compensation strategy than recalibration, but its effect depends on the specific measures proposed.

Finally, Appendix F tests whether the results differ between unsophisticated and sophisticated voters (defining sophisticated voters as those with tertiary education, which is strongly correlated empirically with political interest and political knowledge). First, we want to see if respondents with higher and lower education were equally consistent in performing the conjoint task. For this, we estimate the AMCES for three different splits of the five paired comparisons, and for low- and highly educated respondents separately. We then correlate the AMCES of the first 2 (or 3) comparisons with the AMCES of the second set of comparisons. Since the distribution of respondents with and without tertiary education is highly skewed in our sample (about 1/3 with tertiary education and 2/3 without), we draw 1000 repeated random samples and compare the average of computed correlation measures. All comparison show that less sophisticated respondents have performed the task just as consistently as more sophisticated respondents. Beyond

this, table 6 in Appendix D also shows that the findings are robust for a simple control for tertiary education. Moreover, we test whether more and less educated respondents have answered the conjoint tasks consistently with direct, simple survey questions on specific reform elements. Our survey contains three direct questions on reform elements that correspond directly to conjoint levels. Hence, we correlate the individual-level answers respondents gave on these direct questions (likert scales, 1-4) with individual-level AMCE, estimated on the basis of the 10 conjoint packages each respondent has evaluated, again for 1000 randomly drawn samples of high- and low-educated respondents. Several estimators of correlation (see Appendix F.2) indicate robustly that while the more highly educated respondents are - as expected - somewhat more coherent in their answers, the coherence between the two groups never differs significantly. Based on all these tests, we feel confident that the conjoint task was understood and performed well by both more and less sophisticated respondents.

## 6 Conclusions

The question under what conditions welfare states can be reformed in times of austerity has become crucial in research on welfare politics. Compensation as a strategy to foster support for reform is one of the key explanations. Compensating (parts of) the opponents of welfare reforms may divide – and thereby lower – opposition, because it presents opponents with a trade-off: while they reject certain elements of a reform, they are interested in securing other elements. Conjoint analysis is able to capture precisely the micro-level mechanisms of evaluating trade-offs. It allows us to answer empirically a range of crucial research questions regarding the politics of compensation: Are there policy reform packages that receive majority support when combining retrenchment and compensation? Which compensation strategies are most effective? And what factors determine the effectiveness of different kinds of compensation among particular social groups?

On the basis of our original survey among 1873 Swiss voters, we have shown that

the retrenchment of existing benefit levels is indeed highly unpopular. About 60 percent of respondents consider lower pension benefits unacceptable. Even when retrenchment is embedded in a wider, more balanced, reform package, it has a clear negative effect on the acceptance of the reform. More concretely, lowering pension benefit levels in the occupational pension pillar reduce the probability of a reform being accepted in a direct democratic referendum by 5 to 10 percentage points (the average marginal component effect), compared to a reform proposal that retains the status quo in terms of benefit levels. This reflects the “cost” in terms of public opinion that compensation needs to counter-balance. Different compensation strategies are able to counter-balance this negative effect on reform support: Adapting the architecture of the pension system to new social risks (recalibration) has the strongest and most consistent positive effect on reform support: it increases the chances of a reform being accepted significantly by about 5 percentage points in the full sample and by about 6-8 percentage points among the main beneficiaries (women and lower income earners). Expansion for lower income earners (targeting) has a more variable effect: when it comes in the form of subsidies for early retirement, it does not increase the chances of a reform significantly among the entire population, but only among the main beneficiaries (low income earners). Targeting is more effective when designed more widely, i.e. in the form of generally higher basic pensions.

However, our findings also show that material conditions only take us so far in explaining citizens’ responses to compensation. Partisanship has stronger effects in predicting citizens’ responses: compensation has clear and positive effects among voters of the Left. Both, targeting and recalibration, increase the probability of a reform package being accepted by about 7 and 9 percentage points respectively. Increasing revenues (from VAT) add about 5 percentage points of support. This is an important finding, given the fact that it is usually the Left that organizes opposition against pension cutbacks (not only in Switzerland). If the government manages to divide the left-wing opposition against retrenchment, the chances of a reform increase.

These findings obviously bear important implications for the reform capacity of mature welfare states in an era of permanent financial constraint. Not only do they show that



broad reform packages are more likely to gather sufficient support than narrow reform proposals, but they also confirm that structural and institutional constraints are not deterministic. Rather, agency and politics matter: governments do have ample room for maneuver to tailor compensations to the relevant opposition groups.

Beyond these specific findings on compensation and reform capacity, we want to emphasize the potential and usefulness of conjoint analysis for the study of current welfare politics. We see four main assets of conjoint analysis. First, almost all current research on welfare state change relies on theoretical arguments involving individual-level preferences and public opinion as a key mechanism in political dynamics. However, we know from survey research that when asked directly, most people tend to support generous welfare spending in all areas, just as they support low tax levels (which is why we have such skewed distributions in general survey questions on the welfare state). It is hard to add constraints to such questions in a way that reveals more narrow preferences and increases variance. Conjoint analysis allows to model realistic constraints directly.

Introducing such realistic constraints is – and this is our second point – particularly important in current welfare state research, since most of our theoretical arguments actually rely on assumptions regarding policy priorities rather than policy position. Almost all respondents reject pension retrenchment, but this retrenchment does not have the same importance for all respondents. Priorities have become highly relevant politically, because the context of contemporary welfare politics resembles a zero-sum distributive game, where gains for some social groups come at the expense of other groups. In this context, conjoint analysis provides us with a tool to conceptualize and measure the relative importance of multiple desirable goals. It has therefore tremendous potential for applications in welfare state research way beyond the question of retrenchment and reform capacity.

Third, conjoint analysis is an experimental survey technique. Its strength therefore naturally lies in internal validity more so than in external validity. However, we have reason to think that conjoint analysis provides more external validity than traditional survey experiments (Hainmueller et al., 2014, p. 27): conjoint pairs can be designed in a

highly realistic way and may therefore capture actual opinion-formation processes more adequately than traditional surveys that tend to place respondents in a more artificial situation. In the real world, citizens evaluate policy packages when deciding about their support for a reform, a government or a party. Hence, conjoint surveys may actually achieve more external validity than traditional surveys.

Finally, and because of the realistic decision-making situation conjoint analysis can create for respondents, the policy-relevance of our empirical findings may be higher than with traditional survey research that is unable to capture the complexity and multidimensionality of the decisions at hand.

One of the downsides of conjoint analysis, however, is that the findings may not be very robust, since they depend on the precise choice and wording of the attributes/values, and they may depend on the current public debate (i.e. reflect momentary snapshots of the public debate than stable preferences). In our article, we were able to contain these problems via a robustness survey that tested similar, but not identical attributes/values and that was fielded roughly one year after the first data collection. However, future research may want to go beyond this by theorizing and testing explicitly the context effect of public debates on the relative importance citizens attribute to particular compensations via either longitudinal or comparative designs.

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# Supplementary Information

## A Conjoint pairwise comparison - screenshot of the online survey

Figure 7: Conjoint pairwise comparison - screenshot of the online survey

	Reformpaket 1	Reformpaket 2
<b>Eintrittschwelle in Pensionskasse</b>	Unverändert: keine Ausweitung des Zugangs zu Renten aus Pensionskassen.	Erweiterter Zugang zu Renten aus Pensionskassen für Personen mit tieferem Einkommen und Teilzeitbeschäftigte.
<b>Witwenrente</b>	Wird schrittweise abgeschafft.	Keine Kürzung.
<b>Mehreinnahmen für die AHV</b>	Erhöhung der Mehrwertsteuer um maximal 1.5 Prozentpunkte.	Erhöhung der Mehrwertsteuer um maximal 3 Prozentpunkte.
<b>Umwandlungssatz Pensionskasse</b>	Senkung. Ausgleich durch höheres Altersguthaben.	Senkung. Ausgleich durch höheres Altersguthaben.
<b>Flexibles Rentenalter</b>	Wie bisher: Frühpensionierung möglich, jedoch mit gekürzter Rente.	Frühpensionierung möglich. Neu: finanzielle Abfederung für Personen mit tiefem Einkommen.
<b>Rentenalter</b>	Schrittweise Erhöhung auf 67 Jahre für Männer und Frauen.	Bleibt stabil: 64 für Frauen, 65 für Männer.

Falls Sie noch einmal nachlesen möchten, worum es bei den Reformelementen geht, klicken Sie bitte [hier](#).  
Um zurück zur Umfrage zu gelangen, können Sie einfach oben wieder in den gewünschten Tab klicken.

Welches Reformpaket bevorzugen Sie?

☐ Reformpaket 1 ☐ Reformpaket 2

Wenn Sie über **Reformpaket 1** abstimmen müssten, würden Sie der Reform zustimmen oder sie ablehnen?

☐ sicher zustimmen ☐ eher zustimmen ☐ eher ablehnen ☐ sicher ablehnen ☐ weiss nicht / keine Antwort

Wenn Sie über **Reformpaket 2** abstimmen müssten, würden Sie der Reform zustimmen oder sie ablehnen?

☐ sicher zustimmen ☐ eher zustimmen ☐ eher ablehnen ☐ sicher ablehnen ☐ weiss nicht / keine Antwort

## B Expenditures

Table 5: Expenditures for different reform elements

Reform element	Values	Change in expenditures	Source of the Estimate
<b>Pension cutbacks</b>	1: status quo	0	
<b>2nd pillar</b>	2: Cutbacks. Balanced with higher contribution payments	-1406 mn/year	BBI 2014
	3: Cutbacks. No balancing	-4116 mn/year	BBI 2014
<b>Cutbacks in widows' pensions</b>	1: status quo	0	
	2: Restriction of eligibility	-359 mn/year	BBI 2014
	3: Stepwise abolishment	-960 mn/year	BSV 2016
<b>Increase in age of retirement</b>	1: status quo	0	
	2: 65 for men and women	-1114 mn/year	BBI 2014
	3: Stepwise increase for both men & women to 67	-4700 mn/year	BBI 2014
<b>Subsidies for early retirement</b>	1: status quo	0	
	2: Subsidies for lower-income earners	+390 mn/year	BBI 2014
<b>Extended elibility 2nd pillar</b>	1: status quo	0	
	2: Extend access for people with lower incomes and part-time workers	+400 mn/year	BBI 2014
<b>Increased revenues (VAT)</b>	1: status quo	0	
	2: Increase by max. 1.5 pp	0 (revenue increase of 3600 mn/year)	BSV 2014
	3: Increase by max. 3 pp	0 (revenue increase of 7200 mn/year)	BSV 2014

*Sources:*

BBI 2014: Botschaft zur Reform der Altersvorsorge 2020 vom 19. November 2014 (Official bill proposal by the Federal Government to the Parliament), Bundesblatt, reference number 14.088.

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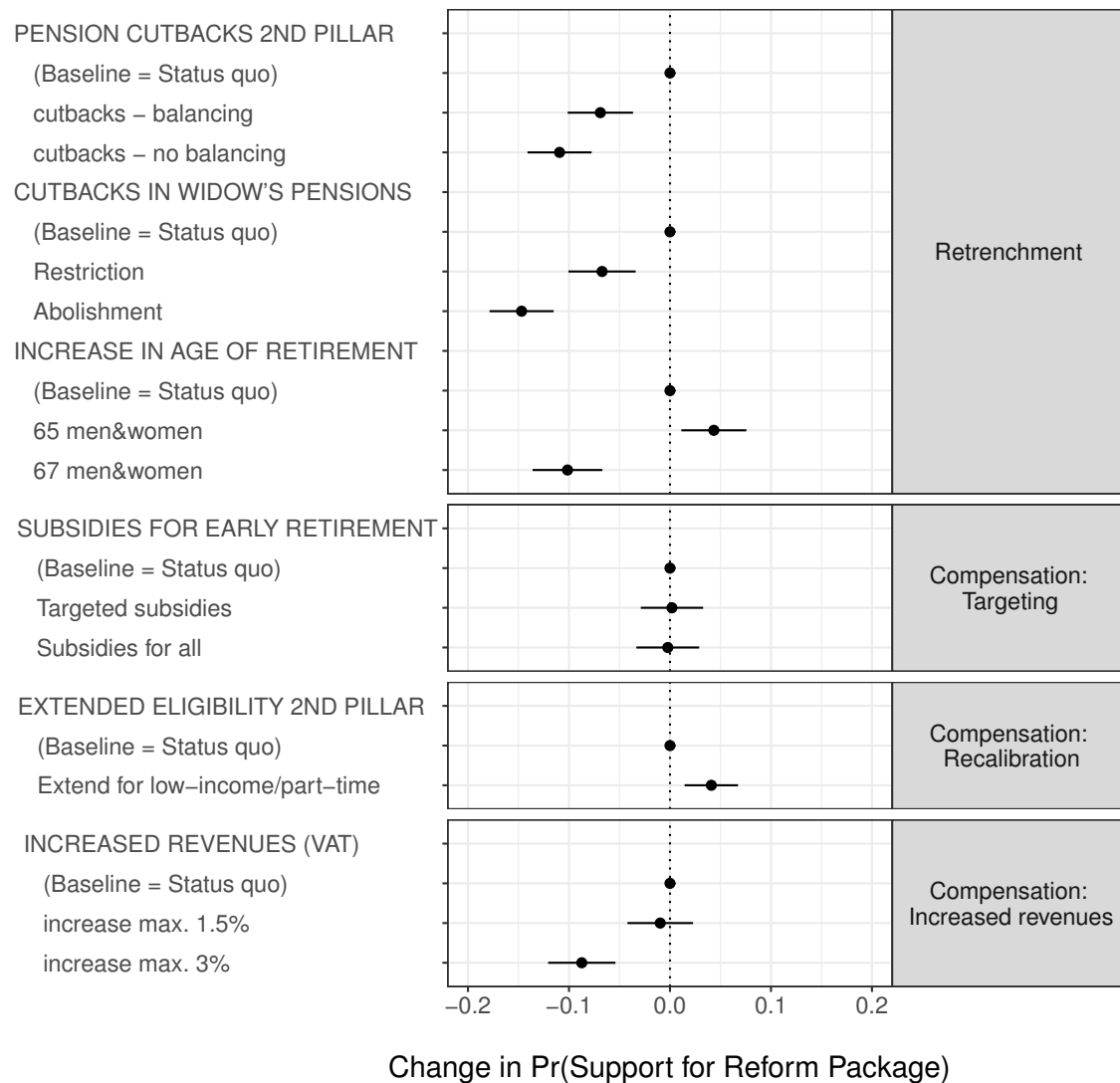
<https://www.bsv.admin.ch/bsv/de/home/sozialversicherungen/ahv/reformen-revisionen/altersvorsorge2020/dokumentation.html>



## C Robustness checks I

### First and second pair only

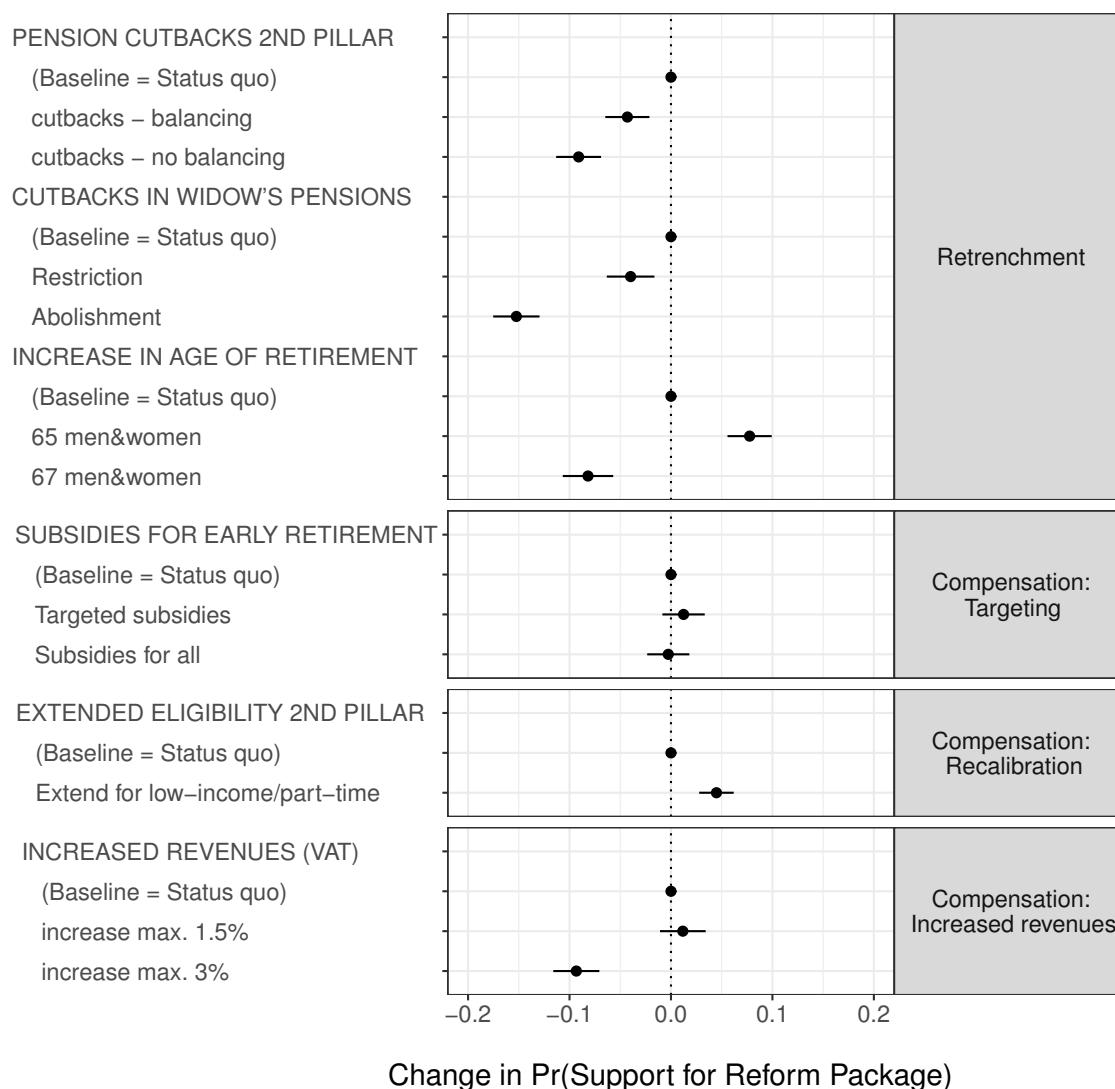
Figure 8: Effects of reform elements on support for the pension reform package, only first two conjoint comparisons



Note: Findings based on a sub-sample of hypothetical packages that includes only the first two (out of five) conjoint comparisons.  $N = 7492$  packages.

## Excluding expansive packages

Figure 9: Effects of reform elements on support for the pension reform package, only retrenchment



*Note: Findings based on a sub-sample of hypothetical packages that includes only those reforms that contain any kind of retrenchment. Of 18730 packages, 683 contained no retrenchment.*

## D Robustness checks II: Controls

Table 6: Full models, control for education

	Model 1	Model 2 Control variables
(Intercept)	0.620 [0.590; 0.649]	0.621 [0.591; 0.650]
Conversion_Ratecutbacks - balancing	-0.046 [-0.067; -0.025]	-0.045 [-0.066; -0.024]
Conversion_Ratecutbacks - no balancing	-0.094 [-0.115; -0.073]	-0.094 [-0.115; -0.072]
Widows_PensionsRestriction	-0.042 [-0.065; -0.020]	-0.042 [-0.065; -0.019]
Widows_PensionsAbolishment	-0.155 [-0.177; -0.133]	-0.155 [-0.177; -0.133]
Retirement_Age65 men&women	0.075 [0.054; 0.096]	0.075 [0.054; 0.096]
Retirement_Age67 men&women	-0.085 [-0.109; -0.060]	-0.084 [-0.108; -0.059]
Early_RetirementTargeted subsidies	0.012 [-0.009; 0.033]	0.012 [-0.009; 0.033]
Early_RetirementSubsidies for all	-0.003 [-0.024; 0.017]	-0.004 [-0.024; 0.017]
Eligibility_2nd_PillarExtend for low-income/part-time	0.045 [0.028; 0.062]	0.045 [0.028; 0.061]
VATincrease max. 1.5%	0.008 [-0.014; 0.030]	0.008 [-0.014; 0.030]
VATincrease max. 3%	-0.095 [-0.117; -0.072]	-0.095 [-0.117; -0.073]
High education		-0.004 [-0.008; 0.000]
Deviance	4441.562	4422.415
Dispersion	0.237	0.237
Num. obs.	18730	18660

Table 7: Models low and high income, control for ideology, age, gender

	Model 1	Model 2 Control variables
(Intercept)	0.665 [0.621; 0.708]	0.669 [0.623; 0.714]
Conversion_Ratecutbacks - balancing	-0.045 [-0.076; -0.015]	-0.045 [-0.076; -0.015]
Conversion_Ratecutbacks - no balancing	-0.113 [-0.145; -0.082]	-0.113 [-0.145; -0.082]
Widows_PensionsRestriction	-0.060 [-0.094; -0.025]	-0.060 [-0.095; -0.026]
Widows_PensionsAbolishment	-0.173 [-0.206; -0.140]	-0.173 [-0.206; -0.140]
Retirement_Age65 men&women	0.057 [0.025; 0.088]	0.057 [0.025; 0.088]
Retirement_Age67 men&women	-0.114 [-0.150; -0.078]	-0.114 [-0.150; -0.078]
Early_RetirementTargeted subsidies	0.003 [-0.029; 0.034]	0.003 [-0.028; 0.035]
Early_RetirementSubsidies for all	-0.014 [-0.042; 0.015]	-0.013 [-0.042; 0.015]
Eligibility_2nd.PillarExtend for low-income/part-time	0.038 [0.014; 0.063]	0.039 [0.014; 0.063]
VATincrease max. 1.5%	0.009 [-0.024; 0.041]	0.009 [-0.024; 0.042]
VATincrease max. 3%	-0.103 [-0.136; -0.071]	-0.103 [-0.136; -0.071]
Low income	-0.053 [-0.144; 0.038]	-0.052 [-0.143; 0.039]
Conversion_Ratecutbacks - balancing: low income	-0.029 [-0.098; 0.041]	-0.028 [-0.098; 0.041]
Conversion_Ratecutbacks - no balancing: low income	0.024 [-0.043; 0.091]	0.024 [-0.044; 0.091]
Widows_PensionsRestriction: low income	0.003 [-0.070; 0.076]	0.004 [-0.070; 0.077]
Widows_PensionsAbolishment: low income	-0.023 [-0.089; 0.042]	-0.023 [-0.089; 0.043]
Retirement_Age65 men&women: low income	0.019 [-0.053; 0.090]	0.019 [-0.053; 0.090]
Retirement_Age67 men&women: low income	0.007 [-0.075; 0.089]	0.007 [-0.075; 0.089]
Early_RetirementTargeted subsidies: low income	0.054 [-0.010; 0.118]	0.053 [-0.011; 0.117]
Early_RetirementSubsidies for all: low income	0.046 [-0.021; 0.113]	0.046 [-0.021; 0.113]
Eligibility_2nd.PillarExtend for low-income/part-time: low income	0.043 [-0.012; 0.098]	0.043 [-0.012; 0.098]
VATincrease max. 1.5%: low income	-0.011 [-0.084; 0.062]	-0.011 [-0.084; 0.062]
VATincrease max. 3%: low income	0.009 [-0.065; 0.083]	0.009 [-0.066; 0.083]
Ideology: left		-0.001 [-0.011; 0.009]
Ideology: moderate right		-0.001 [-0.011; 0.009]
Ideology: other		-0.006 [-0.015; 0.003]
Age		-0.000 [-0.000; 0.000]
Female		-0.004 [-0.010; 0.002]
Deviance	2253.421	2253.319
Dispersion	0.234	0.234
Num. obs.	9640	9640

Table 8: Models gender, control for ideology, age, income

	Model 1	Model 2 Control variables
(Intercept)	0.666 [0.618; 0.714]	0.662 [0.608; 0.717]
Conversion_Ratecutbacks - balancing	-0.077 [-0.115; -0.039]	-0.076 [-0.115; -0.036]
Conversion_Ratecutbacks - no balancing	-0.119 [-0.158; -0.080]	-0.128 [-0.169; -0.087]
Widows_PensionsRestriction	-0.025 [-0.065; 0.015]	-0.032 [-0.075; 0.011]
Widows_PensionsAbolishment	-0.149 [-0.188; -0.110]	-0.151 [-0.192; -0.109]
Retirement_Age65 men&women	0.091 [0.056; 0.127]	0.095 [0.057; 0.134]
Retirement_Age67 men&women	-0.085 [-0.127; -0.043]	-0.080 [-0.125; -0.034]
Early_RetirementTargeted subsidies	0.002 [-0.035; 0.040]	0.001 [-0.038; 0.040]
Early_RetirementSubsidies for all	-0.013 [-0.048; 0.023]	-0.013 [-0.051; 0.024]
Eligibility_2nd_PillarExtend for low-income/part-time	0.019 [-0.009; 0.047]	0.026 [-0.004; 0.057]
VATincrease max. 1.5%	-0.008 [-0.047; 0.031]	0.002 [-0.039; 0.044]
VATincrease max. 3%	-0.136 [-0.175; -0.097]	-0.123 [-0.165; -0.080]
Female	-0.017 [-0.087; 0.052]	-0.008 [-0.084; 0.068]
Conversion_Ratecutbacks - balancing: female	0.046 [-0.005; 0.097]	0.049 [-0.006; 0.105]
Conversion_Ratecutbacks - no balancing: female	0.041 [-0.011; 0.093]	0.039 [-0.016; 0.095]
Widows_PensionsRestriction: female	-0.053 [-0.108; 0.002]	-0.054 [-0.114; 0.007]
Widows_PensionsAbolishment: female	-0.050 [-0.102; 0.002]	-0.052 [-0.109; 0.005]
Retirement_Age65 men&women: female	-0.068 [-0.119; -0.017]	-0.066 [-0.122; -0.010]
Retirement_Age67 men&women: female	-0.062 [-0.120; -0.004]	-0.065 [-0.129; -0.001]
Early_RetirementTargeted subsidies: female	0.027 [-0.024; 0.077]	0.026 [-0.029; 0.081]
Early_RetirementSubsidies for all: female	0.037 [-0.011; 0.085]	0.019 [-0.033; 0.071]
Eligibility_2nd_PillarExtend for low-income/part-time: female	0.043 [0.002; 0.083]	0.040 [-0.003; 0.084]
VATincrease max. 1.5%: female	0.003 [-0.050; 0.056]	0.007 [-0.051; 0.066]
VATincrease max. 3%: female	0.050 [-0.004; 0.104]	0.042 [-0.017; 0.100]
Ideology: left		-0.001 [-0.011; 0.008]
Ideology: moderate right		-0.002 [-0.012; 0.009]
Ideology: other		-0.007 [-0.016; 0.002]
Age		-0.000 [-0.000; 0.000]
Low income		0.003 [-0.005; 0.010]
Deviance	2676.822	2249.158
Dispersion	0.234	0.233
Num. obs.	11450	9640

Table 9: Models party affiliation

	Model 1	Model 2 Control variables
(Intercept)	0.582 [0.520; 0.644]	0.557 [0.490; 0.624]
Conversion_Ratecutbacks - balancing	-0.046 [-0.091; -0.002]	-0.040 [-0.088; 0.008]
Conversion_Ratecutbacks - no balancing	-0.053 [-0.099; -0.006]	-0.054 [-0.104; -0.005]
Widows_PensionsRestriction	-0.026 [-0.075; 0.023]	-0.019 [-0.074; 0.035]
Widows_PensionsAbolishment	-0.130 [-0.177; -0.083]	-0.125 [-0.177; -0.073]
Retirement_Age65 men&women	0.101 [0.056; 0.146]	0.110 [0.062; 0.159]
Retirement_Age67 men&women	-0.003 [-0.054; 0.048]	0.013 [-0.041; 0.067]
Early_RetirementTargeted subsidies	-0.019 [-0.066; 0.029]	-0.029 [-0.082; 0.024]
Early_RetirementSubsidies for all	-0.037 [-0.083; 0.008]	-0.039 [-0.089; 0.011]
Eligibility_2ndPillarExtend for low-income/part-time	0.015 [-0.018; 0.048]	0.021 [-0.015; 0.057]
VATincrease max. 1.5%	0.015 [-0.038; 0.067]	0.033 [-0.023; 0.088]
VATincrease max. 3%	-0.065 [-0.115; -0.015]	-0.055 [-0.111; -0.000]
ideolfarright	0.140 [0.041; 0.240]	0.156 [0.047; 0.264]
ideolleft	-0.024 [-0.108; 0.060]	-0.016 [-0.106; 0.074]
Conversion_Ratecutbacks - balancing:ideolfarright	-0.016 [-0.088; 0.056]	-0.020 [-0.097; 0.058]
Conversion_Ratecutbacks - no balancing:ideolfarright	-0.045 [-0.118; 0.029]	-0.050 [-0.127; 0.028]
Conversion_Ratecutbacks - balancing:ideolleft	0.002 [-0.060; 0.064]	-0.006 [-0.072; 0.060]
Conversion_Ratecutbacks - no balancing:ideolleft	-0.064 [-0.127; -0.001]	-0.066 [-0.132; 0.001]
Widows_PensionsRestriction:ideolfarright	-0.070 [-0.151; 0.011]	-0.078 [-0.166; 0.010]
Widows_PensionsAbolishment:ideolfarright	-0.026 [-0.103; 0.051]	-0.029 [-0.114; 0.055]
Widows_PensionsRestriction:ideolleft	0.011 [-0.053; 0.076]	0.004 [-0.066; 0.074]
Widows_PensionsAbolishment:ideolleft	-0.022 [-0.086; 0.041]	-0.028 [-0.097; 0.041]

Table 10: Models party affiliation,cont.

	Model 1	Model 2 Control variables
Retirement_Age65 men&women:ideolfarright	-0.054 [-0.128; 0.021]	-0.046 [-0.126; 0.034]
Retirement_Age67 men&women:ideolfarright	-0.084 [-0.168; 0.000]	-0.103 [-0.195; -0.011]
Retirement_Age65 men&women:ideolleft	-0.037 [-0.097; 0.022]	-0.043 [-0.106; 0.021]
Retirement_Age67 men&women:ideolleft	-0.132 [-0.202; -0.063]	-0.137 [-0.210; -0.063]
Early_RetirementTargeted subsidies:ideolfarright	-0.016 [-0.089; 0.057]	-0.020 [-0.100; 0.060]
Early_RetirementSubsidies for all:ideolfarright	0.060 [-0.009; 0.128]	0.051 [-0.022; 0.125]
Early_RetirementTargeted subsidies:ideolleft	0.092 [0.031; 0.154]	0.107 [0.040; 0.174]
Early_RetirementSubsidies for all:ideolleft	0.046 [-0.015; 0.107]	0.052 [-0.014; 0.117]
Eligibility_2nd_PillarExtend for low-income/part-time:ideolfarright	-0.022 [-0.078; 0.034]	-0.020 [-0.081; 0.040]
Eligibility_2nd_PillarExtend for low-income/part-time:ideolleft	0.072 [0.024; 0.120]	0.072 [0.020; 0.123]
VATincrease max. 1.5%:ideolfarright	-0.035 [-0.118; 0.047]	-0.037 [-0.126; 0.051]
VATincrease max. 3%:ideolfarright	-0.093 [-0.171; -0.016]	-0.099 [-0.183; -0.014]
VATincrease max. 1.5%:ideolleft	0.037 [-0.029; 0.103]	0.024 [-0.046; 0.094]
VATincrease max. 3%:ideolleft	0.025 [-0.040; 0.089]	0.027 [-0.043; 0.097]
female1		-0.002 [-0.008; 0.005]
age		0.000 [-0.000; 0.000]
inc1ow		0.001 [-0.006; 0.009]
Deviance	2571.839	2258.026
Dispersion	0.237	0.235
Num. obs.	10870	9620

## E Robustness checks III: 2nd survey in 2016

### E.1 Survey information

The survey was conducted in the French-, Italian- and German speaking parts of Switzerland between April and August 2016 (after a pre-test in February 2016) and implemented by the survey company LINK. It contains 1947 fully completed interviews. Sampling was done on the basis of the national official register. Respondents were recruited via letter in which they were given a personalized login for completing the survey. Respondents were – if needed – reminded three times (via letter twice and a third time – if a phone number was available – via telephone). Our sampling strategy was based on quota for the region, age and gender, drawn from the national census. Our overall response rate was 42%.

### E.2 Specification of attributes and levels of the conjoint design, 2nd survey in 2016

Table 11: Reform elements that are being discussed (values) (2nd survey, 2016)

Reform elements (Attributes)	Values		Goal of the reform elements
<b>Pension cutbacks 2nd pillar</b>	1: status quo	No cuts (6.8% conversion rate)	<b>Retrenchment</b>
	2: government proposal	Cutbacks to 6%. Balance the lowering of pension levels by having people contribute more.	
	3: beyond gvt	Cutbacks to 6% No balancing.	
<b>Cutbacks in widows' pensions</b>	1: status quo	All widows below 64 are eligible for benefits	<b>Retrenchment</b>
	2: government proposal	Only widows with children <16 years should be eligible	
	3: beyond gvt	Stepwise abolishment of widows' pensions	
<b>Increase in age of retirement</b>	1: status quo	64 for women, 65 for men	<b>Retrenchment</b>
	2: government proposal	Increase for women by 1 year: 65 for both	
	3: beyond gvt	Stepwise increase for both men & women to 67	
<b>Increase in the level of basic pensions</b>	1: status quo	No increase in the level of basic pensions	<b>Compensation: targeting</b>
	2: government proposal	Increase by 70 CHF/month. In return: increase of contribution-payments by 0.3 percentage points	
	3: beyond gvt	Increase by 70 CHF/month	
<b>Extended elibility 2nd pillar</b>	1: status quo	No change. Only people earning >24'000 CHF/year are eligible	<b>Compensation: recalibration</b>
	2: government proposal	Extended access for part-time workers	
	3: beyond gvt	Extended access for people with lower incomes and part-time workers	
<b>Increased revenues (VAT)</b>	1: status quo	No increase in VAT	<b>Compensation: increased revenues</b>
	2: government proposal	Increase of VAT by max. 1 percentage points	
	3: beyond gvt	Increase of VAT by max. 2 percentage points	



### E.3 Results conjoint analysis 2nd survey, 2016

Figure 10: Effects of reform elements on support for the pension reform package, pooled

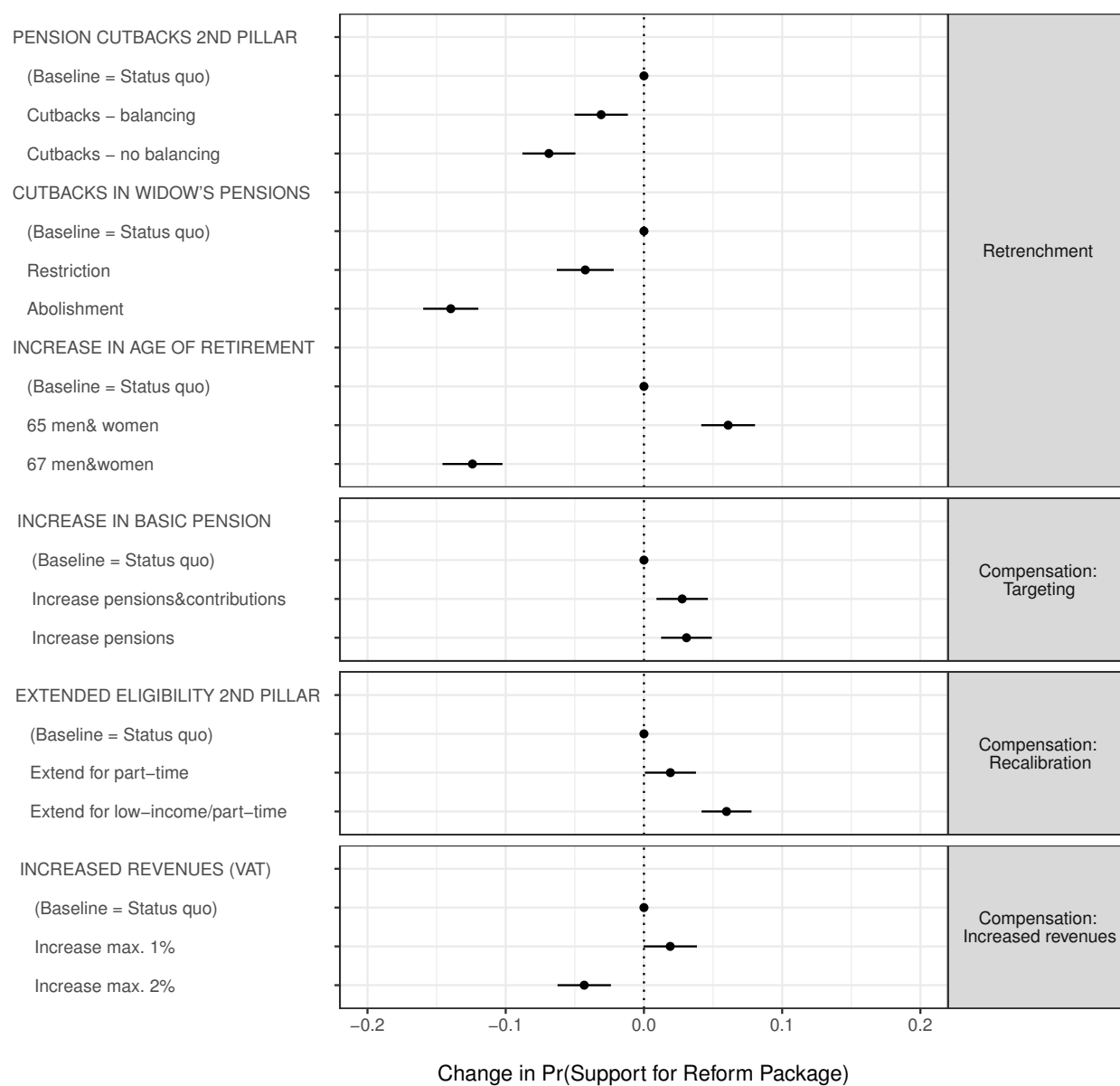


Figure 11: Effects of reform elements on support for the pension reform package, by income

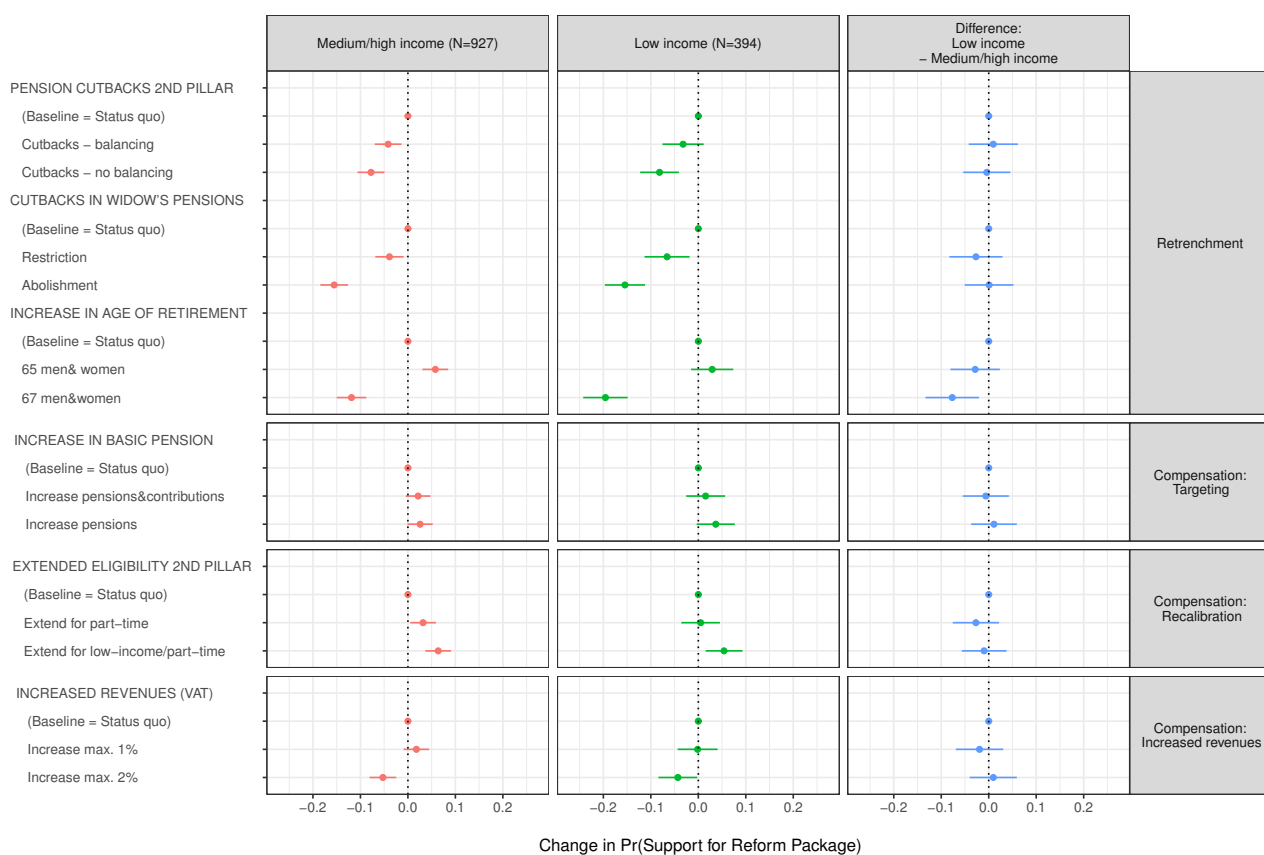


Figure 12: Effects of reform elements on support for the pension reform package, by gender

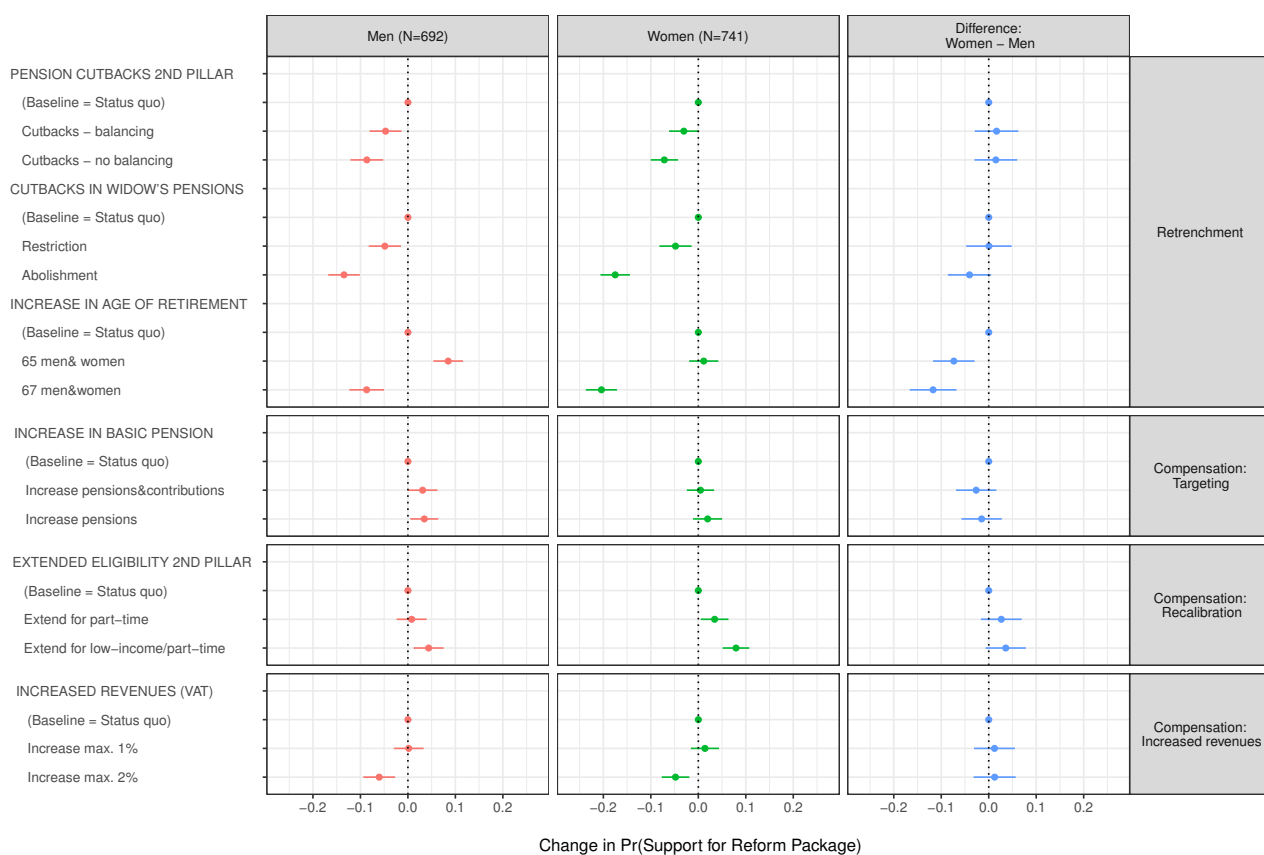
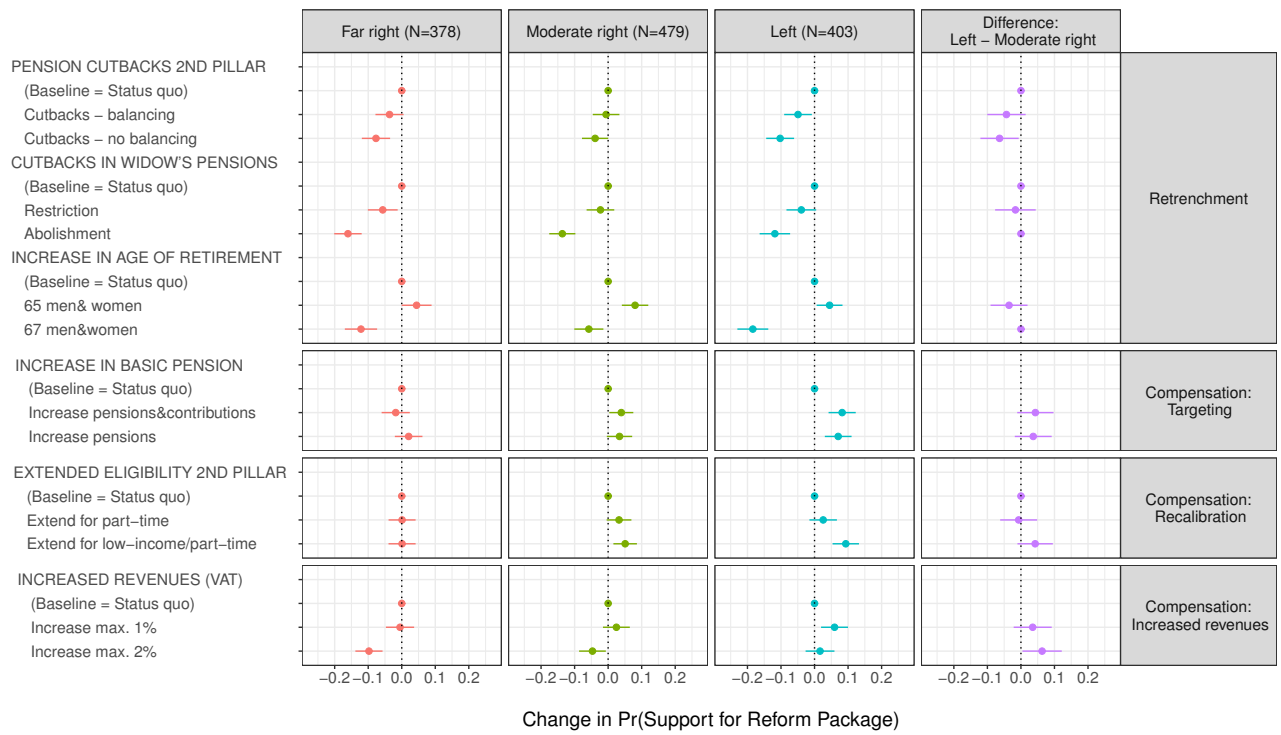


Figure 13: Effects of reform elements on support for the pension reform package, by party



## F Robustness checks IV: Sophistication

To check whether the results differ between unsophisticated and sophisticated voters, we performed several tests. Sophistication was measured by tertiary education (sophistication = 1) vs. no tertiary education (sophistication = 0).

### F.1 Split-sample test

Since the distribution of the sophistication variable is highly skewed (sophisticated = 622, unsophisticated = 1244), we draw repeated random samples and compare the average of computed correlation measures. More precisely, we use the following procedure:

#### Step A, unsophisticated voters:

1. Select random sample of 500 respondents
2. Select first split of packages (e.g. conjoint reform package comparisons 1-3)
3. Estimate AMCEs
4. Select second split of packages (e.g. conjoint reform package comparisons 4-5)
5. Estimate AMCEs
6. Calculate correlation between AMCE-estimates of split 1 and split 2 and save correlation
7. Repeat this procedure with 1000 random samples, each time saving correlation between AMCE estimates
8. Calculate mean of 1000 correlation measures

#### Step B, sophisticated voters:

Repeat 1-8, calculate mean correlation.

#### Step C, compare correlation between AMCEs:

Table 12: Correlations between AMCEs, sophisticated and unsophisticated respondents

Splits	Full sample	Sophisticated full sample N=622	Unsophisticated full sample N=1244	Sophisticated mean AMCE correlations of 1000 random samples of N=500	Unsophisticated mean AMCE correlations of 1000 random samples of N=500
(1,2) : (3,4,5)	0.96	0.89	0.96	0.87	0.89
(1,2,3) : (4,5)	0.95	0.82	0.97	0.80	0.91
(1,2) : (4,5)	0.94	0.85	0.96	0.83	0.88

## F.2 Coherence between conjoint and direct questions

A very broad array of questions in our survey allows for an alternative way to examine potentially varying levels of comprehension among respondents. Beyond their choice of a reform package in the conjoint experiment, respondents were also asked about their attitudes towards several of the reform components in standard, uni-dimensional survey questions (Likert scale). For a total of three values belonging to three different attributes in the conjoint setting, we have sufficiently similar direct questions asked later in the survey (increase in retirement age, pension cutbacks second pillar, increase in VAT). We exploit this duplication to compare average within-respondent coherence between the group of sophisticated and unsophisticated respondents.

### Step A: Individual attitudes in conjoint

Separate linear probability models are used to calculate respondent-specific estimates of the effect of the three specific values of interest (increase in retirement age to 67, pension cutbacks second pillar without compensation, increase in VAT by max. 3%) on choosing the displayed reform package or not. Given the small sample size per respondent ( $N=10$ ), this obviously results in imprecise estimates. However, the point estimate nevertheless gives an indication regarding a respondent's stance towards the specific reform component. The resulting coefficients are subsequently classified into quartiles in order to a) match the coding of the direct question and b) avoid over-interpretation of imprecise estimates.

### Step B: Individual attitudes in direct questions

The answer category to the direct questions asking about the same reform components ranges from 1 to 4 and is recoded to match the direction of the equivalent items in the conjoint setting.

### Step C: Compare level of within-respondent coherence between groups

Two different measures are used to compare coherence levels between the sophisticated and unsophisticated group of respondents. First of all, Pearson's product moment correlation coefficient tests the association between the paired sample. An asymptotic confidence interval is given based on Fisher's Z transform. As an alternative, Krippendorff's alpha, a measure of coder reliability, is adapted to the purpose of comparing coherence between groups. The main interest is in the difference between groups. The absolute level of Krippendorff's alpha in this application is not particularly informative as the measure only evaluates whether ratings in both questions types (conjoint and direct) are identical (e.g. 4 and 4) and does not reward similarity (e.g. 3 and 4 as opposed to 1 and 4). Bootstrapping (2000 iterations) provides confidence intervals for the given probabilities.

The following table presents mean values and confidence intervals of both measures of comparison resulting from 1000 repeated random samples of each group ( $N=500$ ) to avoid differences in the measures based on unequal group size.

Table 13: Coherence between conjoint and direct questions

Sample	Estimate	95% CI
Pearson's r		
full	0.463	0.422 - 0.502
sophisticated	0.482	0.442 - 0.520
unsophisticated	0.450	0.409 - 0.490
Krippendorff's alpha		
full	0.174	0.238 - 0.110
sophisticated	0.195	0.260 - 0.130
unsophisticated	0.161	0.226 - 0.097

Irrespective of the trusted indicator, as one would expect, coherence is slightly higher among respondents with tertiary education but the measures of coherence do not differ in statistically significant terms.